OSPREY / **AIRWAR 18**

BRITISH FIGHTER UNITS WESTERN FRONT 1917-18

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OSPREY/ **AIRWAR** SERIES EDITOR: MARTIN WINDROW

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OSPREY PUBLISHING LONDON

Published in 1978 by
Osprey Publishing Ltd
Member company of the George Philip Group
12–14 Long Acre, London WC2E 9LP
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ISBN 0 85045 292 9

The author wishes to acknowledge the help given in the preparation of this book by his fellow members of the Cross and Cockade Society of Great Britain, particularly L. A. Rogers, A. Imrie and B. Grey. Thanks are also due to Wing Commanders G. H. Lewis, DFC and W. M. Fry, MC; and Squadron Leader L. H. Rochford, DSC, DFC. Acknowledgements also to Messrs W. H. Allen Ltd, William Kimber Ltd and Jarrolds Ltd, for permission to quote from their publications. Unless otherwise credited, all photographs are via the author.

Filmset by BAS Printers Limited, Over Wallop, Hampshire, England
Printed in Hong Kong
Gothscans ltd

TO COMMAND THE AIR

On 30 September 1916, Sir Douglas Haig pointed out in a letter to the War Office the 'urgent necessity for a very early increase in the numbers and efficiency of the fighting aeroplanes at my disposal'. The success of the RFC during the battles of the Somme that year, and the services of 'incalculable value' the corps had rendered the army, had firmly established the principle of the necessity of superiority in the air for the success of future battles, but Haig cautioned that the enemy had made 'extraordinary efforts to increase the number and efficiency of their aeroplanes' and that they had 'unfortunately succeeded'. This, he warned, would result in the RFC losing its superiority in the air unless more efficient fighter aeroplanes were supplied in quantity. He enumerated the weaknesses of the RFC's existing types, comparing all but the Nieuport, F.E.2b and Sopwith Pup unfavourably with the new German fighters—'all other fighting machines at my disposal are decidedly inferior'. Although neither Haig nor Trenchard envisaged losing command of the air for the next two or three months—no doubt bearing in mind the onset of winter over the Western Front, with its curtailment of air activity—they pointed out the possible seriousness of the situation by the spring of 1917 unless 'adequate steps to deal with it are taken at once'.

Haig had requested in June 1916 that the number of RFC squadrons in France should reach 56 by the spring of 1917, a request that had been received with some alarm in Whitehall, but in November 1916 Haig added 20 additional fighter squadrons to his demands and on 12 December 1916 the Army Council formally approved the expansion of the RFC to 106 active squadrons, with 95 reserve squadrons, adding two night flying squadrons a few days later. Proportionally, the number of fighter squadrons

Nieuports of 'A' Flight No. 60 Sqn., Izel-le-Hameau aerodrome, January–March 1917. Left to right: Lt. C. S. Hall, Capt. H. Kirton and Lt. G. O. Smart. On the afternoon of 7 April 1917, both Hall and Smart were shot down near Mercatel by *Jasta* 11. Smart, flying Nieuport 17 A6645, was Manfred von Richthofen's 37th victory and Hall, in Nieuport 23 A6766, probably fell under the guns of *Ltn.* Karl Schaefer. (J. Warne)

Nieuport 16 A. 201 of No. 60 Sqn. in company with others at Izel-le-Hameau, January–March 1917. A.201 was used a great deal by Capt. Albert Ball, who scored his 17th victory while flying it on 16 August 1916. Ball first flew the machine in No. 11 Sqn. and took it with him when transferred to No. 60 Sqn. in August 1916, using it until the end of September. Ball scored 18 victories in this Nieuport. (J. Warne)

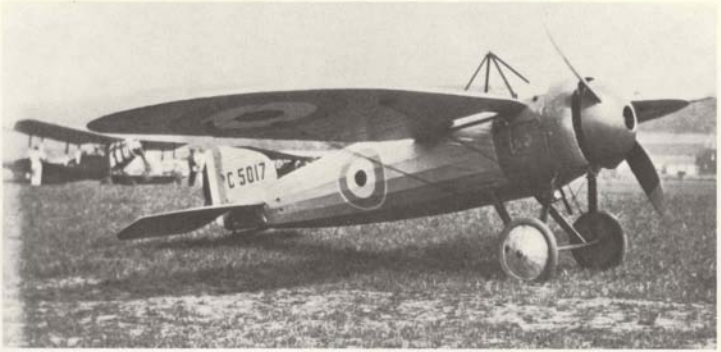
was to be two to every corps squadron. The importance of the fighter aeroplane had now been realized.

In January 1917 Haig again warned that the RFC would have insufficient men and aeroplanes to support an offensive in the spring, and that it would most probably have lost control of the air by April; but despite these warnings the RFC was still seriously under strength in February.

The *Luftstreitkräfte* had made the most of the winter months, and a rationalization of the roles of the various types of squadrons was seen as essential for the coming battles in the spring of the new year. Although British fighters such as the Sopwith Pup and Triplane, the Nieuport 17 and Spad VII could hold their own with the new Albatros D III, all being more manoeuvrable, their firepower was half that of the German fighter and their speed at operational height, lower. This enabled the German fighter pilots to initiate or break off combat at will, an advantage doubly helpful against an enemy committed to an offensive policy. Those RFC squadrons—Nos. 24, 29, 32, 41, and 40—still operating with the D.H.2 and F.E.8 pushers were now hopelessly outclassed by the Albatros D III.

During the first three months of 1917 new fighter squadrons were added to the strength of the RFC in France. No. 54 Squadron (Sopwith Pups) had arrived in France on Christmas Eve 1916 and No. 1 Sqn. was completely re-equipped with Nieuport 17s in January 1917, changing its role from a general duties squadron to that of a fighter squadron. No. 19 Squadron, which had received its first Spad VII in October 1916, had six Spads on strength by December, replacing the virtually useless B.E.12, and was up to full strength by early February 1917. On 1 February, Naval 3 Sqn. (Sopwith Pups) replaced Naval 8, which was temporarily withdrawn to be re-equipped with Sopwith Triplanes, and on 15 February, Naval 1 (Sopwith Triplanes) was attached to the RFC. On 15 March, Naval 6 (Nieuport 17s) arrived in France, followed by the return of Naval 8, now flying its new Triplanes, to the Vimy front on 28 March. Another Sopwith Pup squadron, No. 66, had arrived in France on 6 March, taking up its quarters at Vert Galant.

The air fighting during the first three months of 1917, although curtailed by the winter conditions, had not lacked fierceness, and on 29 January 1917, 'C' Flight of No. 60 Sqn., recently moved to its new aerodrome at Izel-le-Hameau, had its first clash with *Jasta* 11 and its new Albatros D IIIs. Leading this



Bristol M.1c C5017. Favourite mount of fighting instructors in 1918, the Bristol M.1c had an outstanding performance when it flew in July 1916. Unfortunately, prejudice against the monoplane in the higher echelons of the RFC condemned the Bristol to an obscure role in the Middle East and none was used operationally on the Western Front.

Captain Albert Ball in S.E.5 A4850 at London Colney in April 1917. The large windscreen has been removed, the Vickers gun taken out and the fuselage decking faired over. (J. Powell)

Jasta for the first time on 23 January, Manfred von Richthofen had shot down an F.E.8 of No. 40 Sqn., flown by Lieutenant J. Hay, following this victory with another the next day. When 'Duke' Meintjes, the 'C' Flight commander of No. 60 Sqn., led 'Grid' Caldwell and W. M. Fry down to attack the eight Albatros D IIIs of *Jasta* 11 a few hundred feet below the Nieuports, the RFC pilots had little inkling that they were up against a specially organized and trained *Jasta*, flying the latest German fighter. Fry realized later that they were lucky to have survived the fight. He wrote: 'The speed and tempo of the fight was something none of us had experienced before and was a foretaste of what air fighting was going to be like in the future. . . . Compared to that fight all that had gone before was preliminary sparring.'[1]

A combat of 9 March 1917 indicated the obsolescence of the RFC's pusher fighters, the D.H.2 and F.E.8. Nine F.E.8s from No. 40 Sqn. were attacked by five Albatros scouts from *Jasta* 11, and in a fight lasting half an hour four of the F.E.s were shot down and the remainder badly shot about. A formation of D.H.2s from No. 29 Sqn. attempted to come to the aid of the F.E.8s and lost one of their number to von Richthofen for his twenty-fifth victory.

* * *

The battle of Arras had, as its primary objective, the capture of Vimy Ridge, but its main purpose was to pin down the German forces in the north and

1. *Air Of Battle*; W. M. Fry, MC; William Kimber, 1974.

Lieutenant R. T. C. Hoidge in S.E.5 A4862 at London Colney in April 1917. The large windscreen, short exhaust pipes and non-adjustable radiator of the early S.E.5 can be clearly seen.

distract attention from the coming French offensive on the Aisne, due to begin on 16 April. The battle for Vimy Ridge opened on Easter Monday, 9 April, the British 1st and 3rd Armies attacking through snow and sleet. The RFC had a total of 754 aeroplanes—385 of these being fighters—operating over the battle front, against the 264 (114 single-seater fighters) aeroplanes of the *Luftstreitkräfte*. However, numerical supremacy was not enough. Technically superior German equipment and well-trained pilots amply compensated for inferior numbers; despite the efforts of the British fighter pilots, the new Albatros fighters of the *Jagdstaffeln* decimated the slow, unmanoeuvrable reconnaissance aeroplanes of the corps squadrons. In the five days before the opening of the battle, 75 British aeroplanes were shot down, with 19 aircrew killed, 103 wounded and 73 missing. A further 56 aeroplanes were lost in flying accidents, due mainly to the inadequate training received by the replacement pilots, many of whom had only ten or twelve hours' solo time. Now surely was the time to temper the offensive policy, always followed by the RFC, with caution and economy: a continuous aggressive policy is unsuited to a technically inferior side. However, Trenchard insisted on an offensive policy at all times and this inflexibility was to cost the RFC dear in the March and April of 1917.

By a system of ground observance officers (*Flugmeldedienst*) stationed along the front, the *Jagdstaffeln* were advised before take-off of the passing of the RFC's standing fighter patrols and directed to the corps aeroplanes working above the trenches—a tactic which has been likened to that of a burglar waiting until the patrolling policeman has safely passed. In those instances where close escorts were arranged for the corps aeroplanes, they were able to work unmolested, but these escorts were arranged at wing or squadron level and were flown without the direct orders of the GOC.

The success of the *Jagdstaffeln* was spearheaded by von Richthofen's *Jasta* 11, stationed at Douai. Richthofen equalled Boelcke's score on 11 April by shooting down his fortieth victim, a B.E.2c of No. 13 Sqn. Two days later he shot down an R.E.8 of No. 59 Sqn.,an F.E.2b from No. 11 Sqn. and another from No. 25 Sqn.

On 29 April the RFC lost one of the most famous and well-loved of its early pilots, Major H. D. Harvey-Kelly. The first pilot of the BEF to land on French soil on 13 August 1914, Harvey-Kelly was in command of No. 19 Sqn. in 1917. On 29 April he took off at 10am with 2nd Lt. W. N. Hamilton and 2nd Lt. R. Applin to patrol the Lens-Le Foret-Noreuil area. The three Spads, aided by six Sopwith Triplanes from Naval 1 Sqn., attacked six Albatros D IIIs from *Jasta* 11—including the von Richthofen brothers—and five Albatros from another *Jasta*. In the twenty minute fight that followed, all three Spads were shot down, both Harvey-Kelly and Applin being killed, and Hamilton escaping with his life to be taken prisoner.

During the Arras battles the *Jagdstaffeln* displayed superb tactical skill, allied to technically superior aeroplanes. The formations of Albatros fighters, quickly summoned by the *Flugmeldedienst*, effectively dealt with the corps aeroplanes of the RFC. When faced with equal numbers of RFC fighters the German fighter pilots fought hard; but when engaged by superior numbers, or caught at a tactical disadvantage, they quickly broke off the combat: these were the tactics of the true professional. Despite the pleas of No. 54 Sqn. in its squadron song, sung to the tune of 'Somerset', the German fighter pilots concentrated on the strategically important corps aeroplanes, and their successes led to the high casualties suffered by the RFC during April 1917, earning the month the grim sobriquet of 'Bloody April':

> 'Oh, we've come up from Fifty Four;
> We're the Sopwith Pups you know,
> And wherever you dirty swine may be
> The Sopwith Pup will go.
> And if you want a proper scrap,
> Don't chase 2cs any more;
> For we'll come up and do the job,
> Because we're Fifty Four.'

The end of April saw the first offensive patrols over the Western Front of a new RFC fighter unit, No. 56 Sqn. It had arrived at Vert Galant aerodrome on 7 April, but although equipped with the corps' latest fighter, the S.E.5, the squadron did not fly its first offensive patrol until 23 April. The unsuitability of the new fighter for operational flying kept No. 56 Sqn. out of the air fighting above the battle of Arras until modifications to the S.E.5s had been completed in the squadron's workshops. The arrival of the S.E.5, however, was the portent of another swing in the pendulum of technical air superiority over the Western Front. The S.E.5 was the RFC's first twin gun single-seater fighter, matching the armament of the German fighters; when it was joined in July by the Sopwith Camel, the RFC once more had the technical equipment to contain and subdue the *Jagdstaffeln*.

A Lewis gun pulled back on its Foster mounting on an S.E.5. To change the ammunition drum (not fitted here), the front of the gun was disengaged from its front wing clip by the pilot pulling a Bowden cable—which often resulted in a crack on the head as the slipstream forced the gun back too quickly. The remedy was an elastic bungee cord stretched between the barrel and the clip, enabling the gun to be pulled back under control. The cord can be seen running forward across the wing mounting. (L. A. Rogers)

The S.E.5 and the Sopwith F.1 Camel, the main equipment of the British fighter squadrons for the remainder of the war, ideally complemented each other: the S.E.5's main role was that of high flying offensive patrol far behind the enemy's lines; the Camel, a superb, close, dog-fighting aeroplane, operated at lower levels and nearer the front line trenches.

The S.E.5 was a neat, well-proportioned aeroplane, initially comparing favourably with the Spad VII and Nieuport 17. Armament consisted of a

Cockpit of a Sopwith Pup showing the Aldis sight offset to port and the heavily padded end of the Vickers gun.

synchronized Vickers gun, firing through the propeller arc, and a Lewis gun mounted on the top wing, firing clear of the propeller. Although the view has often been expressed that Albert Ball influenced the choice of the overhead Lewis gun on the new fighter—in place of what was to become the conventional twin synchronized Vickers guns on other types—it seems more likely that the Lewis was used in an attempt to speed up the rate of fire of the S.E.5. The unsynchronized Lewis gun had a rapid rate of fire, far in excess of the synchronized Vickers. Flight Sub Lieutenant Raymond Collishaw, later to become one of the top scoring pilots of the RAF, but in 1917 flying Sopwith Pups with Naval 3, remembers how the rate of fire of the Pup's single synchronized Vickers gun was 'a casual put, put, put sound, like a worn out motor cycle about to expire', while the twin Spandaus carried by the German scouts was 'a sort of continuous rending noise, like heavy canvas being ripped'.[1]

The S.E.5 was a fast, extremely strong aeroplane, and an excellent gun platform, but it lacked the overall manoeuvrability of its contemporary the Sopwith Camel. Developed from the Pup, the Camel differed radically from its tractable predecessor. Powered initially with either a 130hp Clerget rotary engine, or a 150hp Bentley B.R.1, the strong torque of the rotary engine in the light airframe enabled a Camel pilot to turn to the right extremely quickly. The main weight masses grouped close together in the front of the aeroplane, combined with its short fuselage and powerful elevators, made the little Sopwith a difficult, unstable aeroplane to fly. However, in the hands of an experienced pilot it was an extremely manoeuvrable fighter.

During May 1917 the air fighting continued with unabated ferocity, but RFC casualties showed a marked drop. There were several reasons for this. The corps aeroplanes were now being provided with escorts of five or six fighters, and the line patrols of F.E.2s, morning and evening, were supplemented by additional fighter patrols. These patrols and escorts served the dual purpose of protecting the corps aeroplanes and attacking the hostile observation and artillery two-seaters. In addition, the *Jasta* had now begun to fly in larger formations and although this resulted in stronger attacks, these were more localized and could be more easily contained and dealt with. Although greater numbers of aeroplanes were involved in the fighting, it was of a confused and disjointed nature and seldom ended decisively for either side.

On 7 May, No. 56 Sqn. suffered a severe blow when its 'A' Flight commander, Capt. Albert Ball, the RFC's foremost ace, was killed. No. 56 Squadron was out in strength on the evening of 7 May, but the importance of tactics had not yet been fully realized and the S.E.5s were split up during a number of scattered actions. No. 56 Squadron lost four pilots during the fighting, including two flight commanders: Ball and the redoubtable South African, Henry 'Duke' Meintjes. The pattern of air fighting was changing and the days of the brilliant individualist—such as Ball—were numbered; 1917 was to see the evolution of the patrol leader, using carefully thought out tactics to place his flight in an ideal position to attack in force. On the day of Ball's death, a pilot in No. 40 Sqn., Edward 'Mick' Mannock, shot down a balloon for his first victory. It was a portent of the future, for Mannock was to develop into one of the finest patrol leaders of the war.

1. *Air Command*, Raymond Collishaw; William Kimber Ltd, 1973.

DUELS OVER MESSINES

At the end of the battle of Arras the scene of operations shifted north for the coming battle of Messines. With the failure of the French spring offensive on the Aisne, the main Allied effort was now entrusted to the British Army in Flanders; the objective of the Flanders offensive was to clear the German forces from the Belgian coast and to turn the flank of the enemy's western defence system. As a preliminary to the main offensive it was essential to capture the Messines-Wytschaete Ridge, from which the enemy could observe all preparations for the coming offensive. The attack was to be undertaken by 2nd Army, under the command of General Sir Herbert Plumer, and its 11th Army Wing, comprising three fighter squadrons: Nos. 1, 41, and 46. For the opening of the battle on 7 June, five additional fighter squadrons were moved into the area. On 14 May, Naval 10 moved to Droglandt aerodrome and Naval 1 flew into Bailleul on 1 June, sharing the aerodrome with the Nieuports of No. 1 Sqn. Both naval squadrons came under the orders of 11th Wing, bringing the fighter strength of the wing to five squadrons. In addition, 9th Wing moved north for the coming battle, its three fighter squadrons, No. 19 (Spad VII), No. 66 (Sopwith Pup) and No. 56 (S.E.5) taking up their new quarters at Estrée Blanche. As a supplement to these reinforcements, the 1st Army, on the immediate right of 2nd Army, received No. 23 Sqn. (Spad VII) transferred from 5th Army. With the patrols of No. 40 Sqn. (Nieuport 17) also extended to cover the Ypres area, the fighter strength of the RFC for the battle reached just over a hundred aeroplanes.

The *Luftstreitkräfte*, aware of the coming offensive, also moved forces north, and although numerical superiority was still held by the RFC, the enemy continued to reinforce his air service during the battles in Flanders. General von Hoeppner wrote: 'Because of their number and their sporting audacity, the English continued to be our most

Lieutenant K. J. Knaggs of No. 56 Sqn. posing by his S.E.5 A4854 on the morning the squadron left for France: 7 April 1917. Knaggs is wearing the life jacket issued to the pilots for their flight across the channel.

dangerous adversaries and, as before, the major part of the German air strength was concentrated against them.'

Artillery supremacy was of the utmost importance during the Messines battle and the main task of the RFC fighter squadrons was to deny the German batteries their eyes by destroying their artillery observation aeroplanes. The British air offensive was concentrated on the domination of the immediate battle area and the enemy balloon line, some 10,000 yards from the British front line trenches. These were the main patrol areas of the fighter squadrons, intended to give the RFC corps aeroplanes freedom of action while denying the area to German air observers. It was realized, however, that standing patrols of fighters, even from dawn to dusk, could not guarantee that enemy observation aeroplanes would not slip through, and a system of wireless interception was used. This system, first used in October 1916, consisted of a number of army wireless stations, known as compass stations, which plotted the movements of enemy observation aeroplanes throughout the day, not only passing on their positions to the foreward ground stations—which laid out a series of code strip panels to direct the patrolling fighters to them—but noting the general overall trend of enemy air activity.

In addition to the system of patrols over the areas mentioned, other fighter patrols flew as far east as a line: Lille-Roulers-Menin; and the fighter squadrons of 9th Wing patrolled an even wider area, to Houthulst Forest, Roulers, Menin and Quesnoy.

In the period leading up to the beginning of the battle, the air fighting grew in intensity as each side endeavoured to protect its artillery observation aeroplanes. Attempting to keep the enemy fighters from the immediate battle area, the RFC fighter squadrons met the *Jasta* over Ypres, Menin, and Roulers. Three days before the opening of the battle on the morning of 4 June, the Sopwith Triplanes of Naval 1, led by flight commander Gerrard, attacked a formation of fifteen Albatros fighters over Moorslede. Three Nieuports from No. 1 Sqn. also joined in the fight, and shortly afterwards two S.E.5s from No. 56 Sqn., Lt. A. P. F. Rhys Davids and Lt. T. M. Dickinson, plus a formation of Sopwith Pups from No. 46 Sqn., hurried into the action.

The fighting, which lasted twenty minutes, became scattered into various small actions. Fullard of No. 1 Sqn. was attacked by an Albatros, but the enemy scout was shot off his tail by Dickinson, the Albatros going down in a series of 'somersaults'. Dickinson was then shot down by *Vzfw.* Wittekind of *Jasta* 28. Rhys Davids, busy with eleven enemy scouts, was powerless to help. Dickinson survived to be taken prisoner of war.

On the eve of the battle of Messines the Sopwith Triplanes of the naval squadrons reigned supreme over the battlefield, the pilots of Naval 10 being particularly successful. The German fighter pilots had learnt a healthy respect for the capabilities of the Sopwith Triplane and that of its aggressive pilots, and almost invariably dived away or avoided combat with the naval Triplanes whenever possible. An example of the aggressive qualities of the pilots of Naval 10 is that of an action during the late morning of 6 June. Raymond Collishaw, now an acting flight lieutenant, led an offensive patrol of ten Triplanes during the morning and attacked an Albatros two-seater and its escort of enemy fighters at 16,000 feet over Polygon Wood. Collishaw shot down two Albatros D IIIs almost at once, and sent a third down out of control with a dead or seriously wounded pilot at the controls. Another Naval 10 pilot, Flt. Sub Lt. Gerry Nash, shot down the two-seater and one of its escorts; Reid shot down a Halberstadt, and Page, Sharman, Alexander and Keens were credited with enemy scouts out of control. Naval 10 had no losses in the thirty-five minute fight.

The battle of Messines opened at 3.10am on 7 June. At dawn, fourteen pilots crossed the front line trenches to make low level attacks on concentrations of German troops, transport and aerodromes. Typical of these attacks on enemy aerodromes was that carried out by Lt. Leonard Barlow of No. 56 Sqn. Taking off at 3.20am, Barlow crossed the front line at 1,500 feet and flew down the Ypres to Menin road to Gheluwe at two hundred feet. At Gheluwe he left the road and made for the railway junction at Courtrai. Climbing to 400 feet he followed the canal to Bisseghem, where he quickly located the enemy aerodrome, which was hard by a mineral water factory—a fact which Barlow ascertained by reading the advertisements on the factory walls! After strafing the enemy sheds and hangars,

2nd Lieutenant Arthur Percival Foley Rhys Davids of No. 56 Sqn. in his S.E.5 A4563 during the squadron's withdrawal to Bekesbourne, Kent in June–July 1917. Note the non-standard bulged cockpit sides and the shortened exhaust pipes. (V. Rhys Davids)

Sopwith Triplane 'Peggy' of Naval 1 Sqn. RNAS.

Barlow zoomed up and spotted a goods train, which he attacked, causing a cloud of steam and smoke to completely obscure the engine. Barlow then flew the length of the train twice, firing both guns, but tiring of this he turned away and flew to Wevelgem, attacking troops in the main street. After scattering these and attacking the railway junction, he made for the enemy aerodrome at Reckem, flying along the Menin road at fifty feet. He fired the remainder of his ammunition into the shed and hangars at Reckem before finally turning for home. On his way back to Estrée Blanche, Barlow's left elevator was shot away, but he landed safely at 5am. Barlow's flight (similar to that of a lone action by the Canadian pilot Lt. W. A. Bishop of No. 60 Sqn. on 2 June, which resulted in a Victoria Cross) resulted in a Military Cross, gazetted on 25 August. Barlow was to win two bars to his MC and eighteen enemy aeroplanes were to fall under his guns before he was posted to Home Establishment five months later.

On the opening day of the Messines battle the German fighter pilots made determined efforts to attack the British artillery observation aeroplanes, but they met with little success. Although four R.E.8s were shot down during the day only one of these fell to enemy fighters, groundfire claiming the others. During the first week of the battle only three corps aeroplanes were shot down by the *Jasta*, the brunt of the casualties being carried by the fighter squadrons, which lost eighteen pilots killed, missing, or wounded. The main phase of the battle had ended by 8 June, the chief objectives having been won by the evening, and despite a brief flare-up of air activity on 9 June, followed by a period of bad weather until the 14th and 15th, when German fighter pilots again made determined attempts to harass the corps aeroplanes, the British air offensive was over. On 10 June Trenchard informed his brigade commanders that it was essential to avoid wastage of pilots and machines 'for some little time'. Reserves were low—in some cases non-existent—and the strength of the RFC had to be carefully husbanded for the main Flanders offensives. A further call on the resources of the fighter strength was made by the withdrawal of two fighter squadrons from the Messines operations to combat the Gotha threat to London, the capital having been bombed on 13 June with heavy casualties to the civilian population. No. 56 Squadron was ordered to Bekesbourne in Kent, and No. 66 Sqn. to Calais, to patrol the Straits.

The Sopwith Camel F.1: 'A buzzing hornet; a wild thing.' The Camel is credited with having destroyed more enemy aeroplanes than any other fighter in service with the RFC/RAF in WW1. (L. A. Rogers)

Despite the emergence of the S.E.5, the Sopwith Camel, Pup, Triplane and the Spad VII, some RFC fighter squadrons were still operating the long-obsolete pusher fighters in the spring and summer of 1917. In the early summer the Sopwith Pup and Triplane, both far superior to the D.H.2 and F.E.8 pushers, were already being replaced by the Camel and S.E.5, and it was a poor reward for the gallant and outstanding service given by the pusher squadrons in 1916—especially so in the case of No. 24 Sqn., the RFC's first single-seater fighter squadron—that they were called upon to soldier on against the Albatros D III and D V in aeroplanes which had been obsolete by the autumn and winter of 1916. Nos. 24, 32, and 41 squadrons were still flying their D.H.2s and F.E.8s during the battle of Arras, and when finally re-equipped it was with an already obsolete aeroplane with a poor performance: the D.H.5. Even this equipment, inadequate as it was, was slow in coming. Nos. 24 and 32 Squadrons still—incredibly—had a few D.H.2s on charge during the battle of Messines in June, and No. 41 Sqn. did not exchange its long outmoded F.E.8s until July 1917.

THE TEMPO QUICKENS

The next move in the Flanders offensives was the battle of Ypres, due to begin on 31 July. The air offensive commenced on 11 July, with the F.E.2ds of No. 100 Sqn. carrying out a series of bombing raids at night on German aerodromes and railway junctions on 2nd and 5th Army Fronts. Manfred von Richthofen had now been given overall command of a *Jagdgeschwader* comprising *Jasta* 11, 10, 4, and 6, and these all came under attack from No. 100 Sqn.

Fierce air fighting along the entire front, greater than anything yet seen in the war, took place on 12 July, with the main concentration being in 5th Army area. The German fighters were now flying in ever increasing numbers and these attracted several small formations of British fighters until large numbers of aeroplanes were involved. Dog-fights between considerable numbers of opposing aeroplanes occurred frequently and often lasted an appreciable time. On the evening of 12 July over

This Nieuport 27 B6768 of No. 1 Sqn. was photographed by Capt. J. T. B. McCudden on the aerodrome at Estrée Blanche in the late summer of 1917. In the background are the S.E.5s of No. 56 Sqn. (J. McCudden)

The officers' mess of Naval 10 Sqn. RNAS at Droglandt in 1917. The rudder hanging from the rafters was from an enemy aeroplane shot down by Flt. Lt. A. W. 'Nick' Carter, the 'A' Flight commander, who had a miraculous escape in May 1917. While 'contour chasing' in a Sopwith Pup he hit a balloon cable; the Pup jerked backwards, then hung upside down with its nose uppermost and the cable wrapped around its propeller. In this position the Pup, with Carter still in the cockpit, slid slowly down the cable and came to rest on a table where several balloon officers had been having tea. Carter stepped out of the Pup without a scratch. (G. Muir)

Captain James Thomas Byford McCudden in the cockpit of his S.E.5a B4891 while 'B' Flight commander in No. 56 Sqn. McCudden was credited with 57 victories and had won a VC, DSO and Bar, MC and Bar, MM and *Croix de Guerre* before being killed in a flying accident on 9 July 1917.

sixty fighters were in combat for over an hour, with both sides fighting with grim determination; but despite the change in style, tempo and tactics of air fighting, individual pilots still experimented in the extemporary fashion of 1915–1916. Captain Geoffrey 'Beery' Bowman of No. 56 Sqn. entered in his logbook on 22 July: 'To Courtrai by myself. Dropped pineapple bomb on lone E.A. [enemy aircraft] Scout. Did not hit it.'

The morning of 26 July started badly, with adverse weather conditions keeping air activity to a minimum, but the evening was fine and there was a large dog-fight over Polygon Wood. At 5,000 feet, enemy two-seaters were attempting to work, while above them, stepped up to 8,000 feet, their escort of thirty Albatros fighters was in combat with the D.H.5s of No. 32 Sqn. Between 12,000 and 14,000 feet, ten additional Albatros scouts were in combat with the S.E.5s of No. 56 Sqn., the newly issued Camels of No. 70 Sqn. and the Spads of No. 19 Sqn. Three thousand feet above this action, seven Sopwith Triplanes of Naval 10 were fighting with another formation of Albatros scouts, bringing the total number of fighters involved in the action to ninety-four. Captain Webb of No. 70 Sqn. shot down *Leutnant* Brauneck of *Jasta* 11 and No. 56 Sqn. lost its 'A' Flight commander, Capt. Phillip Prothero, whose S.E.5 was seen going down with its starboard wings completely broken off.

The following day a successful attempt was made to trap the German fighters. A formation of F.E.2ds from No. 20 Sqn. was used as 'bait', orders being to patrol the vicinity of Menin and draw any formation of enemy fighters which attacked towards Polygon Wood, where a concentration of British fighters would be waiting. The ruse succeeded. The F.E.2ds were soon in combat with some twenty Albatros D Vs (a development of the D III) and drew them to the general area of Polygon Wood, where the main fight developed. More enemy scouts entered the action, their arrival being offset by that of some French fighters. It was a successful evening's fighting for the RFC. No. 56 Squadron claimed two enemy scouts destroyed and another two out of control; No. 66 Sqn. gained one destroyed; No. 70 Sqn. had two driven down by Capt. Collett, and Lt. Kellog of No. 19 Sqn. was credited with another out of control. Naval 10 claimed two victories for the

Flight Sub Lieutenant L. P. Coombes with his Camel of 'C' Flight, Naval 10 Sqn. RNAS with blue and white fuselage stripes and wheel discs. Coombes won a DFC and survived the war with five victories. (G. Muir)

RNAS, and the F.E.2ds of No. 20 Sqn., so often depicted as 'easy meat' for the German fighter pilots, claimed six enemy scouts: two in flames, one seen to break up in mid-air, and three seen to crash.[1] Total British casualties were a wounded pilot and observer from No. 20 Sqn.; Lt. T. M. White of No. 56 Sqn. shot down and taken prisoner; and Flt. Lt. Gerald Roach from Naval 10. Collishaw later described the fight as a 'very brisk affair indeed'.

The evening's fighting was particularly hazardous for 'Beery' Bowman, the 'C' Flight commander of No. 56 Sqn. He had fired at an Albatros, which went down in an evasive spin, flattening out lower down. Bowman had followed it down, but before he could renew his attack he was engaged by two of its *Jasta* companions. With only one gun working, Bowman was driven down to 4,000 feet, but a member of his flight, Richard Maybery, arrived in time to shoot one of the Albatros off his flight commander's tail. Bowman, now down to 3,000 feet, began to climb west, but was immediately attacked by an Albatros, which he described as being 'red all over and very well flown'.

Bowman still had only his Lewis gun working and the Albatros pilot made repeated dive attacks, forcing him down to 1,000 feet. As Bowman neared the British lines and safety, however, the Albatros pilot varied his method. Instead of continuing to dive, zoom away and regain his attacking position from the rear with a climbing turn, the German pilot now began to zoom after each attack, stall turning and attacking the S.E. from the front. This was his undoing. Noting the change of tactics, Bowman throttled down in the next attack, the German pilot overshot and Bowman, zooming up after the Albatros, fired fifty rounds into the red fuselage from a range of twenty feet. The enemy machine dived vertically and crashed west of Roulers. With a sigh of relief Bowman turned again for the British lines: he was now defenceless—his Lewis gun having jammed with his last shot at the red Albatros—and very low. Suddenly he was again under attack from another Albatros. Bowman dived hard for the safety of the lines, turning right and left in an attempt to avoid the enemy's fire and working frantically to clear his gun stoppages. Managing to clear his Vickers gun, Bowman turned to face the enemy machine and the German pilot, turning to

1. On 5 June, an F.E.2d of No. 20 Sqn. had shot down the thirty-victory ace Karl Schaefer, *Staffelführer* of *Jasta* 28; and on 6 July Capt. D. C. Connell and 2nd Lt. A. E. Woodbridge—pilot and observer in No. 20 Sqn.—shot down von Richthofen himself, wounding the German ace in the head.

Officers' huts at Izel-le-Hameau, one of the most famous aerodromes on the Western Front during the war and home to many crack squadrons, including Nos. 46, 60, 203, 64, 22 and 84. Set in the orchard of Filescamp Farm, these huts were erected by No. 60 Sqn. in January 1917 and were used by numerous noted pilots. The farmer, Monsieur Tetus, and his family, made No. 60 Sqn. personnel very welcome, allowing them use of the farmhouse for hot baths and augmenting their army diet with champagne and fresh cream. Monsieur Tetus's son, a boy during WW1, still works the farm today. (J. Warne)

avoid his fire, flew smack into a tree on the edge of Houthulst Forest. Turning again into the sun and flying along the edge of the forest, Bowman was again attacked—this time by three Albatros scouts. At this even the redoubtable Bowman called 'enough' and fled for the British lines, twisting and diving to avoid their fire. The three Albatros finally left him at the lines and he crossed the Yser Canal over Het Sas at a height of fifty feet. Bowman later confided in his logbook: 'Never been so frightened in my life.'

On 31 July, the opening day of the battle, low cloud and rain seriously curtailed the activities of the corps squadrons; however, the fighter squadrons carried out ground strafing attacks and, for the first time on an organized scale, low level attacks with bombs. Richard Maybery of No. 56 Sqn. attacked the German aerodrome at Heule, home of *Feldflieger Abteilung* 6 and (A) 250 and *Jasta* 10. Maybery's first bomb exploded on a shed at the southern end of the field, causing, in Maybery's own words, 'immense excitement'. He then turned and flew northwards along the eastern line of sheds, dropping his second bomb on one of them. His third bomb went through the roof of another shed, not exploding until it hit the floor inside the hangar. Maybery both saw and felt the explosion, smoke pouring out of the doors. The ground defences now came to life and began firing at the S.E. Maybery, pulling the bomb release for the last time, was startled to see that the bomb had not dropped. Zooming, he found himself over Courtrai railway station, and he pulled the bomb toggle again. This time the bomb fell clear, exploding between a shed and a goods train. Maybery then returned to Heule aerodrome, machine gunning the sheds and ground defences and actually running his wheels along the ground during one pass. Zooming over the sheds after his last attack, he flew the short distance to *Jasta* 4's aerodrome at Cuerne, shooting up the hangars with both guns and causing an enemy machine which was being wheeled out of a hangar to be hastily wheeled in again! Leaving the aerodrome, Maybery next attacked two officers on horseback, bolting their horses before turning west and firing at a train on the Courtrai to Menin line. Finally leaving the train, Maybery spotted a column of infantry, two hundred strong, marching along the road to Menin. Maybery attacked this column twice, scattering the enemy troops and inflicting considerable casualties; but at the completion of his second run and in the act of changing his Lewis gun drum, he noticed an enemy two-seater above him. Maybery zoomed up under the hostile machine and shot it down with two determined attacks, the two-seater crashing near the railway line. Maybery circled the crash and strafed the crowd of troops which had gathered around it, but his attention was then diverted by another train, coming from the direction of Menin. He attacked this until he ran out of ammunition and was forced to return to Estrée Blanche, having flown no higher than 500 feet during the whole of his time over enemy territory. This flight of Maybery's must surely rank as one of the most epic actions of the RFC up to that time. It was the first bombing attack made by an S.E.5 and why it did not merit the award of a VC is one of the minor mysteries of the air war in 1917.

A squadron companion of Maybery's, Lt. Eric Turnbull, had also flown a solo mission with orders to attack ground forces in the Ypres area. Crossing the lines at 400 feet, Turnbull came under a great deal of machine gun fire. He dropped lower still, the cloud base being at 200–300 feet, and located the position of the machine gun posts by the simple expedient of flying down their tracer! Ground

S.E.5a A'8918 which was brought down behind enemy lines on 14 September 1917, the pilot, 2nd Lt. H. T. Hammond of No. 60 Sqn., being taken prisoner. A'8918 had previously been taken on charge by No. 56 Sqn. in the spring of 1917.

strafing as he went, he flew down the Ypres-Menin road, turning along it towards Ypres. He attacked several groups of troops and transport before turning off towards Moorslede. Coming under heavy and concentrated ground fire, and his Lewis gun having jammed, Turnbull climbed up through the cloud cover, both to escape the enemy fire and to clear his gun jam. However, he had no success with the Lewis and he realized that he was lost. Recalling the return flight, Turnbull later wrote:

'My return journey was over the clouds, by time and direction. My navigation must have been fairly good as the squadron turned out, saw me when below the clouds and fired Very lights. The cloud layer was so low it was impossible to pick out landmarks and the Very lights were not seen. What appeared to be a level spot was chosen for a landing. One memory is that at times I was so low that it was possible to smell cordite fumes and gas. On inspecting the machine after landing there were quite a number of bullet holes between the engine and petrol tank. The Hun shooting was good. I was lucky.'

In spite of the bad weather conditions during the day, the aeroplanes of 2nd and 5th Brigades, and those of 9th Wing, carried out a total of 396 hours 25 minutes of ground strafing, expending 11,258 rounds of machine gun ammunition, 15 rounds from revolvers and 2 Very lights. Six enemy aeroplanes and one balloon were destroyed for the loss of three British aeroplanes.

The bad weather brought the battle of Ypres to a standstill on 1 August, and operations were not resumed until 16 August with the battle of Langemarck. The main feature of the battle, in respect of the fighter squadrons involved, was the use of those squadrons operating the D.H.5 in a ground support role. The poor performance of the D.H.5 at height, plus the excellent view its back-staggered mainplanes gave its pilot, were both factors which influenced its use in a ground support and attack role. The D.H.5s of No. 41 Sqn. had been successfully used in an attack on 3rd Army front on 9 August.

Immediately prior to the infantry assault, three D.H.5s of the squadron had 'gone over the top' and attacked the German front line trenches, followed by the F.E.2bs of No. 18 Sqn., which went for the enemy trenches during the advance of the infantry. This latter attack was well co-ordinated and successful, and during the battle of Langemarck two D.H.5s were again allocated to each divisional front for co-operation with the infantry. The D.H.5 pilots were to patrol in advance of the initial artillery barrage, attacking troop concentrations and strong points which might hold up the advance. Stronger patrols of four D.H.5s were to cover the whole of 5th

D.H.5 of No. 68 Sqn. (later No. 2 Sqn. Australian Flying Corps) at Baizieux aerodrome in December 1917.

Army front, strafing and breaking up possible counter-attacks. Any enemy artillery and observation machines seen were also to be attacked. The remainder of the fighter force was called upon to strafe enemy aerodromes and troop movements to the rear of the immediate battle area, and to tie down the enemy fighters before they could approach the battle.

The confused nature of the ground fighting somewhat negated the efforts of the D.H.5 squadrons and they were unable to repeat their successes of 9 August. However, a great deal of useful work was done by the Nieuports of No. 29 Sqn. (which had exchanged its D.H.2s in March–April 1917) in strafing the German support lines and reinforcements attempting to come up.

Lieutenant W. A. Pritt of No. 66 Sqn., a cherubic youth who in surviving photographs looks no more than fourteen years old, took off at dawn on 16 August and attacked the enemy aerodrome at Abeelhoek, dropping bombs amongst a group of aeroplanes. Flying to a railway siding at Herlebout he dropped his last bomb on a troop concentration in a siding before spotting an Albatros taking off from Abeelhoek to intercept him. Pritt flew after the Albatros and shot it down to crash into a group of houses on the edge of the aerodrome. Seeing another enemy machine taking off, Pritt dealt with this in a similar fashion before finally silencing a machine gun which had had the temerity to shoot at him. Pritt was awarded the MC for this attack and the nickname of 'The War Baby' from his squadron comrades.

These attacks by low flying fighters, co-ordinated with the infantry assault, were the general pattern followed during the Ypres offensives of 1917, the higher patrols of fighters preventing any serious interference by the *Jagdstaffeln*. During the battle of the Menin Ridge road in September 1917, the fighter squadrons were called upon to patrol the front for eight continuous hours, pairs of fighters being relieved at two-hour intervals. Pilots were ordered to fly at under 500 feet and to watch for any signs of counter-attacks developing. Enemy assembly points were to be noted and attacks made against any concentrations of troops, transports and gun positions. In addition, any low flying aeroplanes were to be attacked and destroyed.

The summer evenings saw a great deal of fierce air fighting above the Ypres Salient. Dog-fights bet-

A heavy landing by an S.E.5a B.548 of No. 1 Sqn. The white bar in front of the cockpit is the squadron marking.

ween large numbers of aeroplanes were common and on one such evening the German ace, Werner Voss, was shot down and killed. James McCudden, now a flight commander in No. 56 Sqn., described the scene on the evening of 23 September in his classic book, *Five Years in The Royal Flying Corps*:

'Away to the east one could see clusters of little black specks, all moving swiftly, first in one direction then another. Further north we could see formations of our own machines, Camels, Pups, S.E.5s, Spads and Bristols, and lower down in the haze our artillery R.E.8s.'

The cloud base was at 9,000 feet, effectively putting a ceiling over the whole front and containing the various actions under it. McCudden's flight was just about to engage a formation of Albatros D Vs when it saw an S.E.5 from No. 60 Sqn. under attack from a Fokker Triplane. Abandoning its attack on the V Strutters, the flight went down to the aid of 'the unfortunate S.E.', and thereby sparked off one of the epic air fights of the 1914–1918 war.

The pilot of the Fokker Triplane was Werner Voss, *Staffelführer* of *Jasta* 10, who had found an ideal aeroplane for his style of air fighting. The highly manoeuvrable little Triplane exactly suited his temperament and tactics, allowing him to

Captain William M. Fry, MC while a flight commander in No. 23 Sqn. in February 1918. Fry is wearing a leopard skin flying helmet. (Wg. Cdr. W. M. Fry)

exploit to the full his phenomenal flying skill. In the twenty minute fight which followed the intervention of 'B' Flight No. 56 Sqn., Voss fought, mainly alone, six of the squadron's best pilots. 'C' Flight of No. 56 Sqn., led by Bowman, had also joined the fight, but Voss continued to outmanoeuvre the S.E.s, using the manoeuvrability of the Triplane to its utmost—continually amazing the British pilots with his flying skill and courage. Although he had many opportunities to escape (by virtue of the Triplane's superior rate of zoom) Voss still fought on, putting bullets through all the S.E.s and badly damaging four, but the end was inevitable. After twenty minutes of fierce fighting, Rhys Davids finally shot the Triplane down to crash near Frezenberg. That evening, in the No. 56 Sqn. mess, Rhys Davids came in for a shower of congratulations, but he spoke for many of the squadron's pilots when he merely replied: 'Oh, if only I could have brought him down alive.' McCudden wrote in his diary: 'The Triplane fought magnificently and put bullets through all of my formation before he was brought down. Bravest and most skilful Hun I have ever seen.' Just over a month later Rhys Davids was himself shot down and killed by a member of *Jasta Boelcke*.

The part played by the naval fighter squadrons during the spring and summer of 1917 has never been adequately recognized. The extended loan of the six naval fighter squadrons was of the greatest worth to the RFC and without them the outcome of the air war in 1917 may well have been substantially different. This help was generously given at a time when the RNAS was itself desperately short of pilots, causing the establishment of its fighter squadrons to be cut from 20 pilots to 18, then to 15. From mid-May until the end of July, Naval 10 alone suffered 17 casualties, theoretically wiping out the squadron whose total complement was 15 pilots. This casualty rate continued throughout the summer months until October 1917. In mid-August Sir Douglas Haig was to pay tribute to the magnificent work of the naval fighter squadrons: 'I cannot speak too highly of the very fine work done by these squadrons or of the splendid fighting qualities they have displayed.'

No. 56 Sqn. group at Baizieux, March 1918. Left to right: 2nd Lt. D. Woodman, 2nd Lt. E. R. MacDonald, 2nd Lt. B. McPherson, Lt. H. J. Burden and Lt. C. Parry. Only Lt. Douglas Woodman of this group failed to survive the war, being shot down and killed on 11 March 1918 by *Ltn.* Scholz of *Jasta* 11. Barclay McPherson was shot down and taken prisoner on the day the RAF was formed, his victor being *Hptm.* Reinhard of *Jasta* 6.

GROUND SUPPORT

During September the *Luftstreitkräfte* began to develop and intensify its bombing attacks by night on the British back areas, targets being aerodromes and lines of communication in the St Omer area. Up to this time no attempt had been made to intercept the raiders with fighters, but on 2 September two Camels of No. 70 Sqn. took off to attack the bombers. They failed to find the enemy machines, but successfully demonstrated that the Camel could be flown at night.

By the end of October, Haig had realized that his hopes for the offensives in Flanders were now futile, the bad weather contributing substantially to the costly failure to attain his major objectives. Nevertheless, the pressure was still kept up in order to draw the enemy's attentions from the next offensive at Cambrai in November.

On 22 October, after a slight improvement in the weather, a local attack was made in the Poelcapelle area. Two days beforehand, a raid was made on the enemy aerodrome at Rumbeke, a raid which was to be a textbook example for similar attacks in 1918. Eleven Camels from No. 70 Sqn. were detailed to bomb the aerodrome—each carrying two 25lb

Lieutenant Harold 'Jackie' Walkerdine of No. 56 Sqn. in S.E.5a B8266 with Sgt. Walter Keen (left) and Sgt. Jim Heggie (right) who seems singularly unaffected by the shortages of war. Walkerdine was wounded on 11 April 1918: attacking an Albatros scout head on, the enemy's fire hit the S.E. in the engine and two bullets smashed the windscreen, one wounding Walkerdine in the head. He survived both this wound and a serious crash late in 1918. (O. A. Sater)

Cooper bombs—with a further eight in close support. No. 28 Squadron, which had arrived in France on 8 October, was to employ eight of its Camels in following up the bombing attack, shooting up any enemy machines left on the ground. The Spads of No. 23 Sqn. were to fly as top cover for the whole operation. The raid was a complete success and a great deal of damage was done for the loss of two Camels from the force of forty-five fighters taking part.

The battle of Cambrai, which began on 20 November, was a localized attack. There was no question of exploiting any breakthrough. Haig had no resources for another large-scale offensive in 1917—these had been squandered in the Ypres battles—and his objective was for a purely local success.

The part to be played by the RFC in the coming battle was considerable. The squadrons of 3rd Brigade, attached to 3rd Army, which was due to make the attack, were reinforced and the squadrons of 1st Brigade and 9th Wing were also employed in the battle. On the eve of the attack the RFC had a total of 134 single-seater fighters, plus 18 Bristol Fighters, against the 20 fighters of *Jasta* 5 attached to the German 2nd Army opposing the attack. The British air strength was overwhelming.

On the morning of the attack, while the pilots of *Jasta* 5 at Estourmel were sitting in the cockpits of their Albatros D Vs waiting for the thick mist to clear so that they could take off, three Camels of No. 3 Sqn. suddenly appeared out of the mist and began to shoot up the aerodrome. Waiting no longer, the *Jasta* took off and one Camel was shot down over the aerodrome by *Offzstellv*. Josef Mai for his third victory, the other two Camels colliding with trees in the mist.

In addition to the raids on German aerodromes, the fighter squadrons had also been given three separate groups of German batteries to attack, located in Vaucelles Wood, Lateau Wood and Flesquieres. No. 64 Squadron, which had arrived in France on 14 October, sent four D.H.5s to Flesquieres, and they began their attacks at 7am. The

Captain Henry Winslow Woollett, DSO, MC and Bar, *Chevalier de la Légion d'Honneur, Croix de Guerre avec palm* while serving in No. 43 Sqn. in 1918. Woollett shot down 35 enemy aeroplanes and 11 balloons, serving in both Nos. 24 and 43 Sqns. Woollett remained in the RAF after the war and was one of several pilots who toured the United States in 1919 as part of a 'Flying Circus' to promote the sale of war bonds. (J. Biddle)

attacks were completely successful and the gun positions were evacuated by the enemy. Nine Camels of Nos. 3 and 46 Sqns. also strafed the gun positions in Vaucelles Wood and Lateau Wood and met with equal success. One of the Camel pilots attacking the guns in Lateau Wood was Lt. Arthur Gould Lee of No. 46 Sqn. Gould Lee lost his way in the mist after attacking the guns and found himself over *Jasta* 5's aerodrome, still 'angrily buzzing' from the raid a quarter of an hour previously by the Camels of No. 3 Sqn. Gould Lee fired two quick bursts at the nearest Albatros, then climbed quickly into the cloud cover. He completely lost himself above the clouds and finally landed nearly seventy-five miles from his aerodrome—a not uncommon occurrence in bad weather over the Western Front.

Throughout the first day of the battle, low-level attacks were carried out by the Camels and D.H.5 squadrons, the pilots returning time and again to their aerodromes to refuel and rearm before immediately returning to the battle. Casualties were heavy, thirty-five per cent of the aeroplanes thus engaged being lost during the day. By dawn on 21 November the battle was going well, but the vital spot was Bourlon Wood, a strong point of machine gun nests and concentrated infantry positions. The ridge at Bourlon commanded all the gains of the previous day and it was essential that it be taken. From 7.10am on 22 November, pilots of Nos. 3, 46, 64, and 68 (Australian) Sqns. attacked the wood and its immediate area with bombs and machine gun fire. The *Luftstreitkräfte* had rushed reinforcements into the area, but although the *Jasta* caused some casualties, many more were the result of the heavy and concentrated ground fire and the dangers of low flying in the persistent mist.

The infantry attack against the wood and the village of Fontaine-Nôtre Dame began on the morning of 23 November, and throughout the day relays of fighters from Nos. 3, 46, 64, and 68 (Australian) Sqns. operated in close support of the troops. In the morning the infantry attack was frustrated at one corner of the wood by an enemy

battery, which had already pinned down three tanks. Lieutenant F. G. Huxley of No. 68 (A) Sqn. dropped four bombs from 100 feet on the battery, temporarily silencing the guns and allowing the tanks to continue their advance. Huxley then turned his attention to a strong point of stubborn resistance and his low-level machine gun attacks enabled the infantry to capture the position. An American pilot serving with No. 68 (A) Sqn., Lt. A. Griggs, dived repeatedly on another strong point, but was shot down by ground fire and killed.

Jagdgeschwader 1 had now been hurriedly sent to the scene of the battle, with von Richthofen having overall command of the *Jagdstaffeln* in the area. Flying over Bourlon Wood in the early afternoon of 23 November, he first attacked a D.H.5—which he forced to land—before attacking Lt. J. A. V. Boddy of No. 64 Sqn. Boddy had been ground strafing over the last two days, and on 23 November had been detailed to assist the infantry attacking Bourlon Wood. He later wrote:

'The first target I selected was a trench packed with Germans and as I dived down I was treated to the thrilling spectacle of our men actually charging in and taking it at the point of the bayonet. Next, I sprayed some reserves coming up from a village in the rear and then turned my attention to the support trenches behind Bourlon Wood which were too fully occupied to miss. Above the gaunt shattered trees of the wood itself the scene was indescribable. Out of the fog of smoke and gas, artillery and contact machines loomed from every direction. From below there was an inferno of bursting shells and at the edge of the wood a row of tanks appeared to be held up by anti-tank gun fire. One was blazing furiously. In the hope of being able to help them I searched the wood for these batteries and did my best to silence them with bombs and machine gun fire.

'My gun then jammed badly and I flew around trying to clear it. What happened after that I am unable to say, but it seems that I was shot down and didn't regain consciousness until I reached a base hospital two or three days later. I do remember seeing some of the red machines of Richthofen's circus a few thousand feet above, but there were some S.E.s up there too, so I left it at that. Evidently one of them, and from the published list of his victories, I believe it to be the Baron himself, got through and on to my tail. A bullet fractured my skull but subconsciously I must have kept control and tried to land—usually the D.H.5, being nose

Sopwith Camels of No. 4 Australian Flying Corps at Bruay, 26 March 1918. Note the squadron marking of a white boomerang behind the roundel and on top of the fuselage of each aircraft, including B.7406/W at left and B.7412/Y, centre. Shortly after this photograph was taken, the squadron marking was changed to a single white bar in front of the roundel. (G. Muir)

The cockpit of S.E.5a of No. 1 Sqn. in 1918 showing a number of interesting details including the twin triggers on the control column grip with velometer to the right of it and the oil pressure gauge and rev counter to left and right above. Under the rim of the cockpit padding are Very pistol cartridges and above, the wingnuts for adjusting the angle of the windscreen, behind fairings. On the left of the cowling can be seen the bracket for the longer exhaust pipes even though No. 1 Sqn. aircraft had shortened pipes.

heavy, dropped like a brick if you let go of the stick. I crashed between two trees in the north-east corner of the wood and broke both my thighs, one being completely crushed by the engine. I was told afterwards by one of our own pilots who had had a forced landing near the front line that he brought a rescue party out to me under heavy fire and that I was taken back to a dressing station in a tank. In his modest account of this stout effort which won him [the unnamed pilot] the Military Cross, his words were: "I hailed a passing tank, put you in and wished you goodbye and good luck." I don't suppose he ever engaged a queerer conveyance for a friend.'

Throughout the rest of November and the first week of December the pattern of the air fighting remained much the same. Above the low flying aeroplanes of both sides—the German had formed special squadrons (*Schutzstaffeln*) for the protection of their artillery aeroplanes and for trench attack—were the artillery and contact aeroplanes, and above these the high offensive patrols. There were often more than fifty aeroplanes concentrated above a front of five miles, and a pilot later wrote: 'An absolute mêlée of aircraft around Bourlon Wood, the air thick with D.H.5s, S.E.5s, R.E.8s, and Bristol Fighters.' There was almost continuous fighting above the trenches, with the infantry of both sides coming under heavy and determined attack from low flying aeroplanes.

The battle of Cambrai finally ended on 7 December, and although little had been achieved, the breakthrough not having been exploited, valuable lessons had been learnt—by both sides. The air war, which had gained even greater momentum during the German counter-attack on 30 November, came to almost a complete standstill on 1 December. Mist and low cloud kept most of the German aeroplanes on the ground and only the British troops enjoyed air support during the fierce fighting throughout the day.

December was a remarkable month for Capt.

James T. B. McCudden of No. 56 Sqn. He had been quietly building his personal score of enemy aeroplanes destroyed since joining the squadron as a flight commander in August, and the last month of the year saw the culmination of his tactics against German two-seater observation aeroplanes. During December, McCudden shot down 14 of No. 56 Sqn.'s 17 victories for the month, including 13 two-seaters. The No. 56 Sqn. victory lists show McCudden's name for sixteen consecutive entries from 22 December through into January 1918.

By the end of 1917 the RFC had a formidable fighter force in the field: 19 squadrons of single-seater fighters, plus 6 RNAS fighter squadrons (comprising 5 squadrons of S.E.5s, 6 of Camels, 2 of Nieuports, 2 of Spads and 4 of D.H.5s). The six RNAS squadrons were equipped with Sopwith Camels.

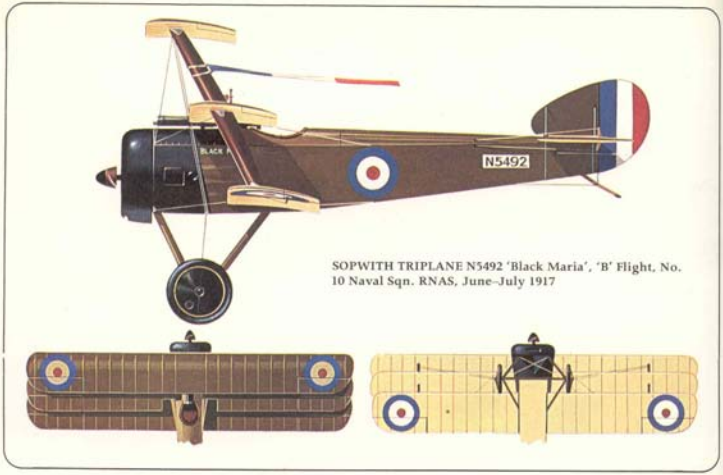
As winter set in over the Western Front, air activity slackened. The conclusion of the Cambrai battles marked the end of the ground offensives until the spring of the new year and the fighter squadrons reverted to their original role of defensive and offensive patrols. The general pattern was that the Camel squadrons fought nearer the front line trenches and at generally lower levels than the S.E.5 squadrons, which flew further into the enemy back areas, containing and destroying the enemy fighters.

The year 1918 opened with the Allied air forces holding overall superiority over the Western Front. In quality as well as quantity, the RFC fighter squadrons were more than a match for those of the Germans; the S.E.5, S.E.5a, and Camel all being superior to both the Fokker Triplane and the Albatros D V. With air fighting now taking place at greater heights, the Triplane's poor altitude performance showed up. Although several aces continued to fly it with some success, it was not until the Fokker D VII entered service in April 1918 that the average German fighter pilot once more had an aeroplane that could match the S.E.5 and Camel.

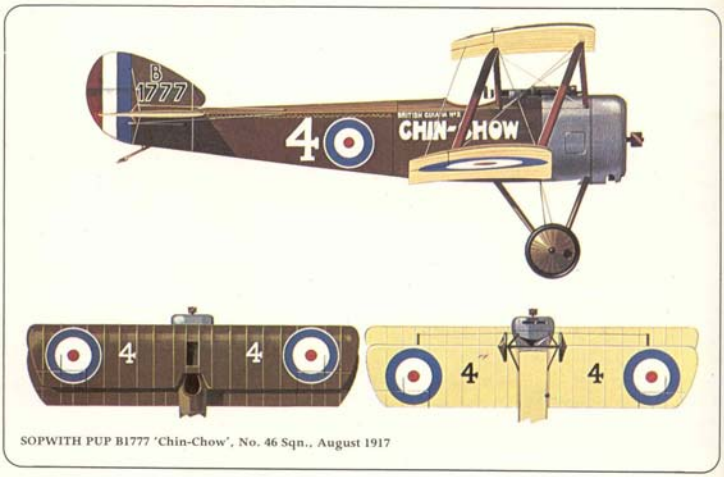
Although the majority of the British fighter squadrons were now equipped with the S.E.5 or Camel, the RFC still operated two Spad units over the Western Front at the beginning of 1918: Nos. 19 and 23 Sqns. No. 19 Squadron, due to be re-

continued on page 33

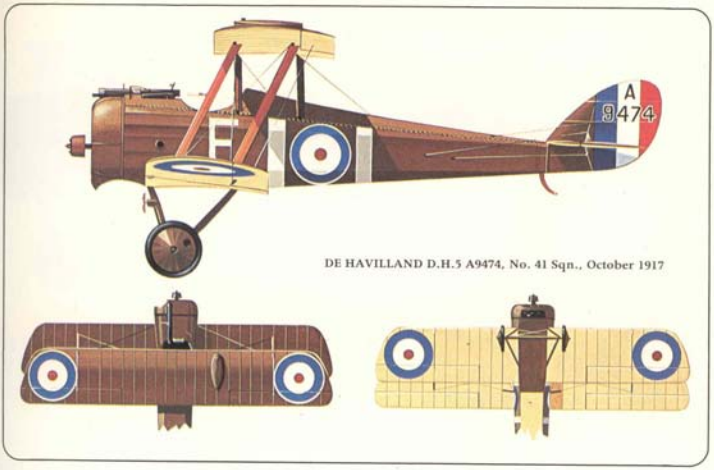
Pilot, 1918, in Sidcot No. 5 flying suit. Born of a private purchase suit made to order for Sidney Cotton of No. 8 Sqn. RNAS, it was developed and issued in 1917–18, proving very popular. The outer layer was of 'Burberry', with an interlining of silk and an inner of thin fur.



SOPWITH TRIPLANE N5492 'Black Maria', 'B' Flight, No. 10 Naval Sqn. RNAS, June–July 1917



SOPWITH PUP B1777 'Chin-Chow', No. 46 Sqn., August 1917



DE HAVILLAND D.H.5 A9474, No. 41 Sqn., October 1917

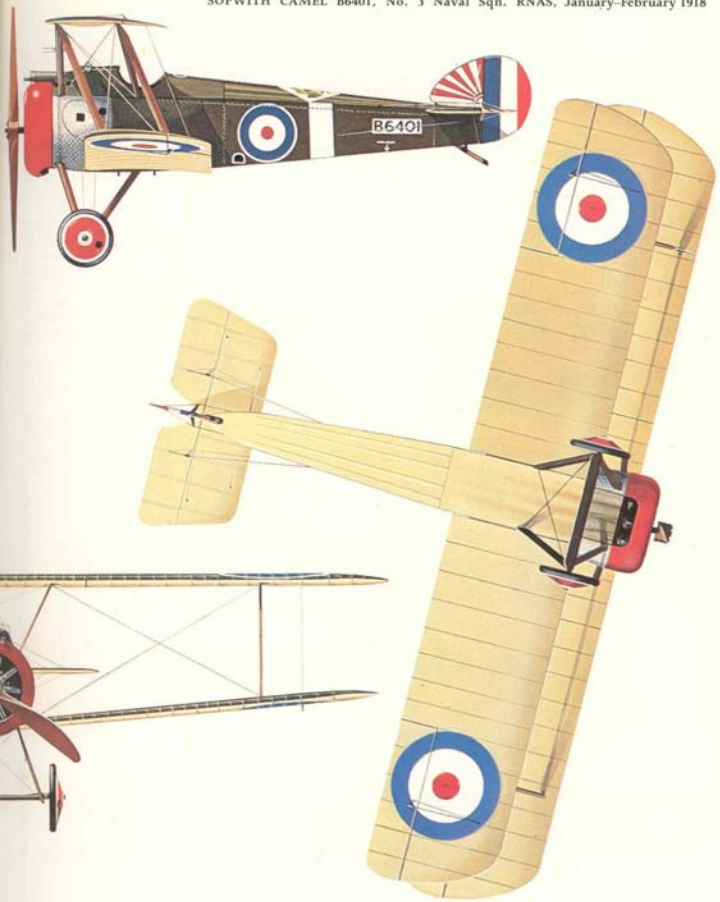
OPPOSITE TOP: Sopwith Triplane N5492 'Black Maria' flown by flight commander Raymond Collishaw while commanding the famous 'Black Flight'—'B' Flight of No. 10 Naval Sqn. RNAS, June–July 1917. In the standard service finish of the period, PC 10 khaki-green doped on all surfaces apart from the underside of the fuselage and flying surfaces which were left in their natural linen colour and treated with V.114 varnish, the aircraft is shown with the 6ft long fabric streamer used to identify a flight commander's machine in the air. The name appeared on both sides of the front fuselage and the upper wing roundels were ordered to be 'severely toned down', as shown. Initially only black wheel covers served to identify flight aircraft, but these soon proved inadequate and the black trim was extended. Other Triplanes in the flight were: 'Black Death'; 'Black Roger'; 'Black Prince' and 'Black Sheep'.

OPPOSITE BOTTOM: Sopwith Pup B1777 'Chin-Chow' flown by Lt. Arthur Gould Lee of No. 46 Sqn. from Sutton's Farm, Hornchurch, Essex on home defence duties, August 1917. A presentation aeroplane bearing the inscription 'British Guiana No 2', the Pup was one of a number with highly visible nicknames, including 'Wonga', 'Otazel', 'Brandy' and 'Will-o'-the-Wisp', which were ordered to have their 'identities' painted out when No. 46 Sqn. returned to France on 30 August. The machine is finished in standard British camouflage for the period.

ABOVE: De Havilland D.H.5 A9474 flown by Lt. Frederick S. Clark of No. 41 Sqn. when he was shot down on 29 October 1917. Last seen flying west over Bullecourt at 7.45am, Clark's machine was probably the third victory for *Ltn.* Fuchs of *Jasta* 30. Although bearing standard camouflage, comparison with the other colour plates reveals the extent to which khaki-green could vary from green to brown shades, as shown. The letter 'F' appeared on both sides of the fuselage as did the two vertical white bars, which identified the squadron. This particular aircraft was part of the contract for a batch of D.H.5s with serial numbers A9363–A9562 ordered from the Darracq Motor Engineering Co Ltd of Fulham, No. 41 Sqn. being one of five units to use the type operationally.

B6401

SOPWITH CAMEL B6401, No. 3 Naval Sqn. RNAS, January–February 1918

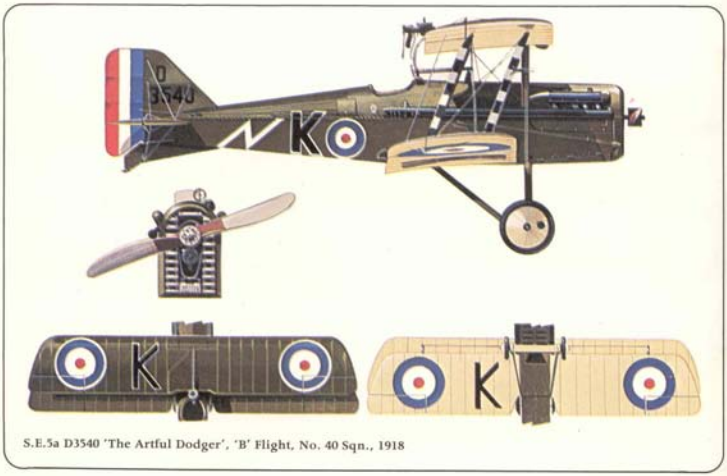


PAGES 28–29: Sopwith Camel B6401 of No. 3 Naval Sqn. RNAS, Bray Dunes aerodrome, January–February 1918. One of a number of strikingly marked Camels used by Naval 3 during the period, this machine was first flown by a Canadian, Lloyd S. Breadner. Commanding the squadron from late 1917 until early 1918, Breadner applied the maple leaf encompassing a crown on the top decking of the fuselage. Decoration of this section was not uncommon on Camels, but it is the fin and elevator markings that make the widest departure from standard, as do the playing cards on the lower mainplanes. At least one other Camel of Naval 3 carried similar tail markings during the period.

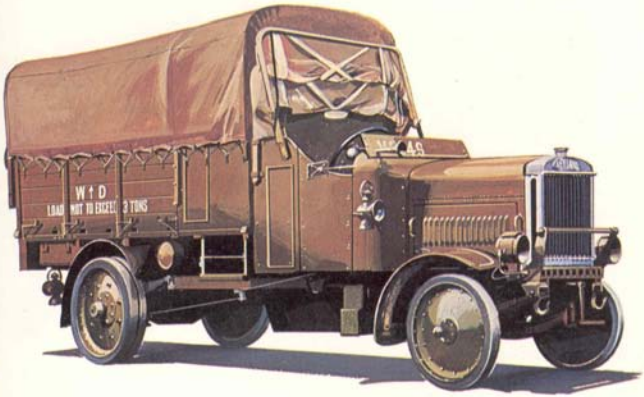
BELOW: S.E.5a D3540 of No. 40 Sqn., flown by Capt. Gwilym Lewis, DFC while commanding 'B' Flight, No. 40 Sqn., 1918. A Hispano Suiza-engined S.E.5a, the machine carried the name 'The Artful Dodger' on the radiator shutters as shown. The white zig-zag on the rear fuselage was a squadron marking.

OPPOSITE TOP: (A) The initials of Lt. Oliver Stewart carried on his Sopwith Pup while serving with No. 54 Sqn., spring 1917. (B) Fuselage marking of a Sopwith Pup of No. 4 Naval Sqn. RNAS. (C) Badge of No. 73 Sqn., France 1918. Commanded by Maj. T. O'B. Hubbard, known in the RFC as 'Mother' Hubbard, and then flying Camels, the unit's badge stemmed from this original design—a dog looking in an empty cupboard illustrating a line from the Mother Hubbard nursery rhyme, and a 'C' for Camel. (D) Fuselage marking of Pup N6179 flown by several pilots of No. 3 Naval Sqn. RNAS, March 1917. (E) S.E.5a flown by Capt. Duncan Grinnell-Milne. The aircraft name recalled the pilot's days in prison camp and the derogatory way in which he was addressed after capture in December 1915. After escaping, Grinnell-Milne joined No. 56 Sqn. in France and painted an S.E.5a as shown, reckoning that he would be flying low enough on ground strafing sorties for the Germans to read the name! (F) Sopwith Pup of No. 4 Sqn. RNAS. (G) Fuselage marking of S.E.5a B'507 of No. 60 Sqn. RFC. (H) Sopwith Dolphin, No. 87 Sqn. RFC.

OPPOSITE BOTTOM: Leyland Subsidy 'A' Type general purpose three ton lorry used by the RFC/RAF, 1917–18. Most of the 12,000 Leyland lorries manufactured during the war were used by the air forces, the 'A' Type mobile workshop version being extensively employed by the squadrons. Each flight had a workshop lorry for carrying out general repairs and overhauls to aircraft, the vehicle's generator providing the squadron buildings with electric light.



S.E.5a D3540 'The Artful Dodger', 'B' Flight, No. 40 Sqn., 1918



LEYLAND Subsidy 'A' Type general purpose three ton lorry

Royal Flying Corps mechanic swinging the propeller of an S.E.5 fighter. He wears dark blue denim working overalls with the leather trench jerkin much favoured by British troops in France, and the khaki sidecap of the RFC, with corps badge on the left front.

Warrant Officer pilot, 1918. A combination of the features of officers' and other ranks' uniforms: note absence of officer's collar badges and of other ranks' shoulder titles; special tab on cuff of senior NCOs' and WOs' tunic (officers wore pointed cuffs, other ranks plain cuffs); warrant badges on forearms; and Sam Browne belt.

equipped with the new Sopwith Dolphin fighter, continued to fly its Spad VIIs, but No. 23 Sqn. began to receive the updated model of the Spad VII, the Spad XIII, at the beginning of December 1917. On 6 January 1918, Capt. William M. Fry of No. 23 Sqn., flying one of the new Spads, was patrolling in the area of Passchendaele at 7,000 feet. Seeing a formation of Camels from No. 70. Sqn. under attack from five Albatros D Vs from *Jasta Boelcke*, Fry dived to assist the Camels, firing a burst of twenty rounds at the nearest Albatros. The enemy machine rolled over on to its back and went down in a steep spiral to crash in shelled ground south of Passchendaele. The pilot of the Albatros was *Ltn.* Walter von Bulow, *Staffelführer* of *Jasta Boelcke*, with twenty-eight victories to his credit.

No. 23 Squadron's sister Spad unit, No. 19, also did well during the last month of 1917, scoring thirteen victories during the month before pulling out of the line to re-equip with the Sopwith Dolphin in January 1918. During 1917, while flying the Spad VII, No. 19 Sqn. boasted several successful pilots, including Johnny Leacroft, with twelve victories, and during the year the squadron scored ninety-five victories. The Dolphin first entered service with No. 19 Sqn. in France in January 1918, while No. 79 Sqn. began to receive the type in December 1917. After working up to strength at Beaulieu, Hampshire, No. 79 Sqn. flew to France on 18 February 1918. In April, No. 23 Sqn. finally relinquished its Spads for Dolphins, and a fourth Dolphin squadron, No. 87, arrived in France on 26 April.

* * *

On 2 January 1918, the Air Ministry was formed and the RFC commander, Hugh Trenchard, knighted in the New Year's honours list, was appointed Chief of Air Staff. Trenchard's successor to the command of the RFC in France was Major-General J. M. Salmond, who took up his new command on 18 January 1918.

The noticeable slackening of enemy air activity during the early months of 1918 was an indication that the *Luftstreitkräfte* was building up its strength for an offensive in the spring. During late February Allied air reconnaissance revealed a marked increase in enemy rail and road movements and it

Captain Frederick Robert McCall of No. 41 Sqn. with Vickers-built S.E.5a E3977. After scoring 6 victories flying R.E.8s with No. 13 Sqn., McCall joined No. 41 Sqn. as a fighter pilot and had 37 when he was invalided to Home Establishment in August 1918. He was at home in Canada on convalescent leave when the war ended and was awarded an MC for his artillery spotting and combat work with No. 13 Sqn. and a DFC for service with No. 41 Sqn. (O. A. Sater)

became obvious that an attack was imminent on the British 3rd and 5th Army fronts.

The German offensives in the spring of 1918 were a last desperate attempt to win the war before America, which had declared war in April 1917, could put an army and air force in the field in France. The *Luftstreitkräfte* carefully husbanded its strength for the coming battles, and Eugene MacDonald, a new pilot with No. 56 Sqn., after describing the living conditions of the squadron in March 1918, touched briefly on this lack of activity:

'Our dining and annex marquées would have appeared fantastic to anyone from the Front Line trenches. These marquées had an interior lining of a cream coloured material which gave a very pleasant appearance. Electric lighting was from a workshop lorry. Our tables always looked beautiful: clean white tablecloths, gleaming cutlery, and nearly always flowers. Food was excellent, service perfect. We sent a Crossley tender down to Boulogne every second day for fish. Dinner was always very formal and dignified until the King's health had been proposed in the traditional manner. The CO

A presentation S.E.5a D6933 inscribed 'Newport Fife No. 4' of No. 85 Sqn. at St Omer, July 1918. It was flown by Lt. John Rorison, an American who also served with Nos. 84 and 24 Sqns. RAF and finished the war with the 25th Aero Sqn. USAS.

remained for a little while and then quietly retired. Youthful spirits then took over. 56 was a happy, gay and lively squadron. In my very early days it seemed curious to me that nearly all the pilots returning from patrols reported that all the Hun two seaters ran away and all Hun fighter formations were reluctant to engage. I was soon to know the reason. The Hun was conserving his aeroplanes for the big push.

'We had heard many rumours of preparations being observed for a German advance, but it did take us by surprise when it began in the early hours of 21 March 1918. Stewart Maxwell and I were awakened about 4am by a most thunderous roar of guns: the noise was terrific and continuous, yet no shell appeared to land near us. Maxwell and I went outside to have a look at the weather and to our astonishment stepped into the most incredibly dense fog imaginable. If we had gone a few steps away from the small shack which we shared we would have had some difficulty in finding it again.'

The RFC had made ample plans to counter the German offensive, and reinforcements were sent to the threatened army fronts in the south. As part of the plan to negate air support during the coming offensive, a number of attacks were made on German aerodromes. As in the raid on Rumbeke aerodrome in 1917, several squadrons co-operated in the attacks. Following raids on the aerodromes at Busigny, Bertry and Escaufourt on 9 March, a combined bombing and strafing attack was made on 17 March against the aerodrome, ammunition dump, and railway station at Busigny.

The main object in bombing the enemy aerodrome was to bring the enemy fighters into the air so they could be destroyed by the S.E.5s of No. 84 Sqn. The attack was highly successful and the following day it was repeated, Busigny aerodrome being the sole target and with the S.E.5s of No. 84 Sqn. being reinforced by the Camels of No. 54 Sqn. The total number of fighters involved in the raid was twenty-four, but when the enemy fighters rose to the bait some fifty Albatros, Fokker Triplanes and Pfalz engaged the British fighters and the fight drifted eastwards from Busigny towards Le Cateau, dropping almost to ground level. British casualties were high; two S.E.s, two D.H.4s and five Camels were lost. One of the Camels from No. 54 Sqn. was shot down by von Richthofen for his sixty-sixth victory, the pilot, Lt. W. G. Ivamy, being taken prisoner. One of the S.E.s lost from No.

84 Sqn. was flown by Lt. H. A. Payne; the other by Lt. J. A. McCudden, the younger brother of James McCudden VC, who had left No. 56 Squadron for Home Establishment on 9 March with fifty-seven victories to his credit.

MARCH SETBACKS

At 4.45am on the morning of 21 March 1918, the German infantry advanced through the thick mist. Using new tactics, the enemy pushed storm troops forward and ignored any strong points that could not be easily taken, leaving them to the succeeding waves of support troops. The *Schutzstaffeln*, formed in 1917 to support the infantry, and used with great effect during the counter-attacks in the battle of Cambrai, had now been re-equipped with high performance aeroplanes of the CL category and renamed *Schlachstaffeln*. As visibility improved towards midday these *Staffeln* ranged over the whole of the battle front, attacking British troops with machine gun fire and hand grenades and harassing any reinforcements attempting to come up. On both 3rd and 5th Army fronts the air fighting was confused and intense. All the fighter squadrons of the RFC made low-level attacks on the enemy infantry and flew offensive patrols at 2,000 feet along the battle front in an attempt to protect the corps aeroplanes and destroy the *Schlachstaffeln* aeroplanes. Despite these patrols, the corps squadrons suffered many casualties from the *Schlasta* and *Jasta* operations, the enemy aeroplanes flying in great numbers above the confusion of the ground battle.

On 5th Army front, low-level attacks were pressed home by the squadrons of the 22nd Wing: No. 23 Sqn. (Spad), No. 24 Sqn. (S.E.5a), No. 48 Sqn. (Bristol Fighter), No. 54 Sqn. (Camel), and No. 84 Sqn. (S.E.5a). On 3rd Army front the visibility was better and this led to vicious and fiercely contested air fighting, with the biggest clash of the day, over Bourlon Wood at 1.30pm, involving eight S.E.5as of No. 56 Sqn., two S.E.s from No. 64 Sqn. and two mixed formations of Albatros and Fokker Triplanes. In addition to the fighter squadrons of 3rd Army—Nos. 3, 11, 41, 46, 56, 64, and 70—fighter squadrons were detached from 1st Army: Nos. 2 and 4 Australian Flying Corps,[1] Naval 3, 22, 40, and 43. By

1. Originally Nos. 68, 69, and 71 Sqns. of the RFC, the Australian squadrons were renumbered Nos. 2, 3, and 4 Sqns. Australian Flying Corps in January 1918.

Major R. S. Dallas, CO of No. 40 Sqn. 1918, in an unusually camouflaged S.E.5a D3511. Although officially credited with 39 victories, an evaluation of the claims made by Dallas shows a total of 56. Dallas was shot down and killed on 1 June 1918 by three Fokker Triplanes of *Jasta* 14 and awarded to *Ltn.* Hans Werner for his sixth victory.

Sopwith Camel of No. 210 Sqn. A 150hp B.R.1 rotary-engined aircraft, it has the white fuselage number '1' with a blue shadow. (R. Sykes)

The groundcrews were the unsung heroes of the war. Two of them were: Sgt. Edgar E. Ellison (left) and Cpl. Jack Cooper of 'A' Flight No. 56 Sqn. (J. Cooper)

Camels of 'B' and 'C' Flights, No. 201 Sqn. in August 1918. The three machines on the left are 'B' Flight aeroplanes with the squadron marking further aft of the roundel than specified. Note chequered tailplane on 'S', F6022. (L. A. Rogers)

the end of the day, although there had been a great deal of air fighting along the whole of the front, losses and gains were not high, with the RFC losing seven aeroplanes and the *Luftstreitkräfte*, eight. On the ground, however, the German army had made good progress and was pushing on towards Amiens, a highly significant strategic objective.

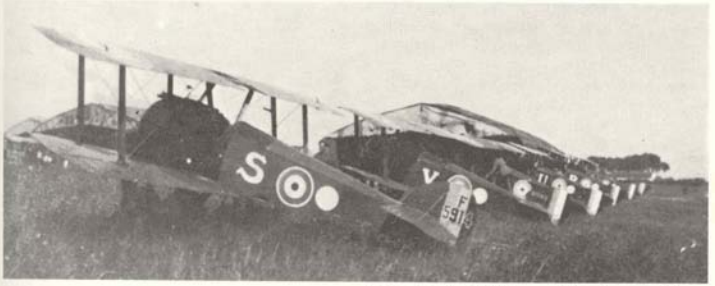
The second day of the battle opened in almost identical weather conditions to those of the previous day, the only difference being that the fog, which had largely cleared by midday on 21 March, persisted until after 1.00pm. When it finally cleared, air activity built up to the intensity of the previous day and reconnaissance revealed that the German forces had made substantial gains, penetrating to Vraucourt village on 3rd Army front. No. 46 Squadron, the only fighter unit used for low-level attacks on this front, flew three missions during the day, fighting enemy aeroplanes and attacking the infantry with machine gun fire and bombs.

On 5th Army front the German troops made startling progress, crossing the Crozat Canal and capturing Terguier. During the afternoon a critical situation developed opposite St Quentin; a general retirement of the British troops was ordered and the S.E.5as of Nos. 24 and 84 Sqns. made repeated low-level attacks throughout the day, machine gunning and bombing the advancing enemy. Although these attacks were pressed home with courage and determination, they could do little to halt the advance and it became necessary to move back the squadrons of 5th Army, the advancing enemy troops threatening to overrun their aerodromes.

No. 84 Squadron, stationed at Flez, eleven miles from St Quentin, received orders to move in the afternoon: enemy infantry was reported in the

village of Holnon, west of St Quentin and a mere seven miles from Flez. Major Sholto Douglas, commanding No. 84 Sqn., put out motor cycle patrols down each of the roads leading to Flez from the east, with instructions to report back every hour with news of the latest gains made by the enemy. Stores and equipment were then loaded on to the squadron's transport, and the S.E.5as, directly they had been refuelled after their last patrol, were flown to the new base at Campien, fifteen miles to the west.

One of the motor cyclists sent out by Maj. Douglas was attacked by a low flying Albatros. Air



Camels of No. 210 Sqn. on Evinghem aerodrome, August–September 1918, with F5914/S and B7153/Y nearest the camera. (L. A. Rogers)

Mechanic Knight dismounted and took cover in a ditch, firing his rifle at the enemy machine as it passed overhead. To Knight's astonishment, the engine of the Albatros stopped and the pilot made a forced landing in a nearby field. When Knight returned to Flez with the highly improbable story that he had shot down an enemy fighter, Douglas was understandably sceptical. A Crossley tender, sent to investigate, found the Albatros with a bullet in the engine, but with no sign of the pilot. The enemy machine was burnt and it was awarded to Knight as a victory. Four hours after Maj. Douglas had himself taken off from Flez—he was the last to leave—the German troops overran the aerodrome.

The weather improved dramatically on 23 March and stayed fine for almost a week. Air fighting was almost continuous over the whole of the battle front and the pressure on the ground forces was unrelenting. The situation on 3rd Army front was particularly serious, and the Camels of Nos. 3 and 46 Sqns., with the S.E.5as of No. 41 Sqn., were employed throughout the day in low-level strafing attacks against the enemy infantry. The air fighting above the village of Vaulx-Vraucourt was particularly fierce. The S.E.5as of No. 56 Sqn. and two flights of Camels from No. 4 Sqn. AFC attacked troops and transport in and around the village and were attacked by German fighters, two of which were shot down by the flight commander of the top flight of Camels.

The amount of air fighting on 23 March exceeded the combined total of the previous two days, all the combats taking place at heights under 10,000 feet. The 3rd Army front saw the most action, with the fighter squadrons of 13th Wing being assisted by the six fighter squadrons of 10th Wing. Even this was not sufficient, and during the day No. 60 Sqn. of 11th Wing was thrown into the fighting, with aeroplanes of 9th Wing carrying out distant offensive patrols in an attempt to keep the enemy fighters from reaching the battle. In all, twenty-eight enemy aeroplanes were claimed as destroyed over 3rd Army front, with the RFC losing a total of thirty-two aeroplanes on 3rd and 5th Army fronts combined, although not all these losses were directly attributable to enemy action.

Throughout 24 and 25 March the enemy kept up his incessant attacks. On the 24th, Capt. J. L.

Trollope of No. 43 Sqn. became the first pilot of the RFC to shoot down six enemy aeroplanes in one day. In a morning patrol over Mercatel, Trollope shot down two DFW two-seaters, and shortly after sending the second of these down in flames he saw an Albatros D V attacking a fellow pilot. Trollope dived on this Albatros and sent it down out of control, the crash being witnessed by Capt. H. W. Woollet, who had himself just shot down another of the DFWs. In the afternoon, again leading his flight of Camels, Trollope hurried to the assistance of some R.E.8s which were being attacked by enemy fighters and two-seaters. Trollope dived on one of the enemy machines and it broke up under his fire. Turning away from the main fight, Trollope then spotted a pair of pink coloured two-seaters flying very close to the ground. He attacked these, firing at each in turn, and both the enemy pilots panicked and flew into the ground. No. 43 Squadron had destroyed a total of twelve enemy machines at the end of the day, six going to Trollope. Small wonder that he wrote to his mother that night: 'This has been the most wonderful day of my life.'

In spite of these successes in the air, the line on 3rd Army front began to crumble on 25 March; the situation was desperate and the whole strength of the RFC fighter squadrons was used in ground attacks. Major-General Salmond sent a message at 11.15am to the officer commanding 9th Wing for additional help: 'I wish you as soon as you can after receipt of this to send out your scout squadrons and those of Nos. 27, 25, and 62 Squadrons that are

Captains Gwilym H. Lewis, DFC and George E. H. McElroy (right). Lewis flew D.H.2s with No. 32 Sqn. in 1916 and after being sent home to England for an appendectomy, was posted to No. 40 Sqn. on 9 December 1917 as a flight commander. He survived the war with twelve victories and was a wing commander in WWII. McElroy scored at least forty-eight victories with Nos. 24 and 40 Sqns. and won an MC and DFC, each with a Bar. He was killed in action on 31 July 1918. (Wg. Cdr. G. H. Lewis, DFC)

'A' Flight No. 201 Sqn., in September 1918 under the command of Capt. Ronald Sykes. The Camel second from left is D6434. (R. Sykes)

available on to the line Grevillers (just west of Bapaume)–Martinpuich–Maricourt. These squadrons will bomb and shoot up everything they can see on the enemy side of this line. Very low flying is essential. All risks to be taken. Urgent.'

Ten squadrons from 1st Brigade and two from 5th Brigade were immediately sent to reinforce the squadrons of 3rd Brigade. Pilots of all squadrons carried out continuous ground strafing attacks, returning to their aerodrome only to refuel and rearm. German regimental diaries and records are full of references to the activities of the low flying aeroplanes of the RFC and there can be little doubt that their concentrated and concerted effort had a great influence on the final outcome of the battle. Salmond wrote to Trenchard on the night of 25 March 1918:

'We have managed to concentrate 100 machines on the threatened line in the 3rd Army. They had orders to fly low and take every risk; nothing was to count in carrying out their duties. I had news from 1st Brigade that our machines were so thick over this point that there was every danger of collision in the air.'

By 26 March the crisis on 3rd Army front was over and the fiercest operations were next fought over 5th Army front, fighter aeroplanes flying both ground attacks and offensive patrols on 27 March. Critical fighting on both fronts ended by the evening of the 28th and the German attacks, although flaring up spasmodically, gradually lost impetus. On 31 March, air combat began to return to the upper air. The weary pilots of the fighter squadrons were glad of the respite from ground strafing duties. There were now a great number of highly experienced pilots serving with the RFC, men who were fully confident of their ability to meet and best the German fighter pilots in air combat, but who were only too aware that while ground strafing their skill and expertise could do little to save them from the concentrated small arms fire from the ground. An experienced pilot could be shot down and killed as easily as the newest member of the squadron. In 1918 many young fighter pilots had lived through the strain of four years of war: they no longer regarded flying as an adventure. Now it was a case of sheer survival, and ground strafing, which lessened the odds considerably, was universally hated and feared.

ROYAL AIR FORCE

On 1 April 1918, the RFC and the RNAS were officially amalgamated to become the Royal Air Force. The change made little difference to the hard-pressed members of both forces; their day was much the same as any other, marked only by heavy casualties—forty-eight aeroplanes crashed or missing.

Despite the instructions of *Marshal* Foch that the first duty of the fighter squadrons was to assist the

The Dolphin was the RAF's first multi-gun fighter. A departure from Sopwith's usual conception of rotary-engined fighters, it had two fixed Vickers guns and two flexible Lewis guns above the centre-section. (B. Robertson)

ground troops, and that air fighting was not to be sought except so far as was necessary for the fulfilment of their ground strafing duties, the orders issued by 9th Wing on 4 April 1918 detailed all its fighter strength to offensive patrols. The previous day the *Jagdstaffeln* had been flying in massed formations at high altitudes, and the orders of the officer commanding 9th Wing on 4 April—that not less than two fighter squadrons would patrol continuously to seek out and destroy the enemy formations—marked a new stage in the continual development of air fighting tactics. From this time, large formations of two or three squadrons, working together in mutual support and to a pre-arranged plan, became commonplace.

Throughout the last German offensive of the war, from the battle of the Lys in April to their last offensives in July, the duties of the RAF fighter squadrons followed the pattern developed during the battle of Cambrai in November 1917. During the days of intense and critical ground fighting of each offensive, the fighter squadrons were thrown in to ground strafe and bomb the attacking troops, returning to the upper air during the lulls and less critical phases of the battles. During the crisis of 9 April 1918, when Haig issued his famous 'backs to the wall' order: 'Every position must be held to the last man; there must be no retirement', the RAF put forward a supreme effort, flying from dawn to dusk.

The pilots of No. 201 Sqn. (formerly Naval 1) each flew in action for five and a half hours during the day, and Capt. Henry Woollett of No. 43 Sqn. equalled the record of his squadron colleague Trollope by shooting down six enemy aeroplanes. Trollope himself had been shot down twelve days earlier, on 28 March. After a fight with twenty Fokker Triplanes and Albatros scouts, during which he had shot down a Triplane and an Albatros, Trollope flew to attack a pair of observation balloons near Peronne. Although he shot down one of the balloons, Trollope's aileron controls were cut by the intense ground fire and he flew west, making for base. Almost immediately he was attacked by three enemy fighters, and in their first pass the fire from one blew Trollope's wrist 'almost off'. Trollope tried desperately to reach the safety of the cloud cover, but the enemy fighters shot his main petrol tank through and he was down to 2,500 feet before his engine picked up on the gravity tank. The enemy pilots made continuous attacks, while Trollope, his controls shot away, could only fly straight:

'I kept on and on 'till my engine was hit and the revs dropped to 1,000. I still kept on; both my front flying wires on both sides were shot away. This upset the stability and she started turning north slightly and then my gravity tank was shot through and that finished me. As soon as my engine stopped I got into a floppy spiral and finally at 150 feet into a spinning nose dive from which I did not recover. How I wasn't killed beats me. I finally crashed two hundred yards behind their outpost line near Dernacourt, south west of Albert.'

* * *

On 20 April 1918, Manfred von Richthofen shot down Maj. Raymond-Barker, CO of No. 3 Sqn., and Lt. D. G. Lewis. Both fell in flames. Major Barker was killed, but Lewis miraculously survived. Writing in 1934, he recalled:

'His first burst shattered the compass in front of my face, the liquid therefrom fogging my goggles, of which, however, I was relieved when a bullet severed the elastic from the frame and they went over the side. My position was not improved, however, for my eyes filled with water caused by the rush of wind. Flying and landing wires struck by the bullets folded up before my eyes, and the struts splintered before that withering fire. I do not think Richthofen was more than fifty feet from me all this time, for I could plainly see his begoggled and helmeted face and his machine guns. Next I heard the sound of flames and the stream of bullets ceased. I turned round to find that my machine was on fire. My petrol tank was alight.'

Lewis put the Camel into a dive in an attempt to keep the flames away from the cockpit until he could reach the ground, and at 500 feet the flames had almost gone out. However, attempting to pull out of his dive, he found that the Camel would not answer to the controls, only sluggishly beginning to come out of its dive. Lewis hit the ground 'at terrific speed' before he had succeeded in completely levelling out. Incredibly, he escaped almost unhurt, having been thrown out of the Camel on impact, and spent the next six weeks in hospital with minor

burns and bruises. While lying on the ground, Lewis saw that there was no fabric left between the cockpit and tail of his Camel, and that only a few strips of fabric on the elevators had enabled him to partially pull out of his dive. All that remained of his Sidcot flying suit were a few charred strips; his helmet 'crumpled up' when he took it off and he had bullet holes through his trouser leg and a sleeve. Lewis was von Richthofen's last victim. The following day the German ace was shot down and killed in circumstances still unresolved.

Although the emergence of high scoring fighter pilots was a continual process during 1917 and 1918, the last year of the war saw the death of many aces of both sides. By the end of August 1918 many of the finest RFC/RAF pilots had paid the supreme price for flying in almost daily action. McCudden was dead, killed in a flying accident on 9 July; Mannock, regarded by many as the finest fighter pilot and patrol leader of the war, had been shot down by ground fire seventeen days later. G. E. H. McElroy, a top scorer in No. 40 Sqn. with forty victories, was killed on 31 July. Raymond Collishaw, the RNAS ace, was to survive the war with sixty victories, but in May another naval ace, Robert Little, had been killed while attacking a German bomber at night; and Roderic Stanley Dallas, commander of Naval 1 until the formation of the RAF when he was given command of No. 40 Sqn., enjoyed his new command for only just over ten weeks before being shot down in a single-handed fight with three Fokker Triplanes on 19 June 1918.

Wing Commander Ira 'Taffy' Jones, DSO, MC, DFC, MM, himself a fighter pilot of repute, who survived the war with forty victories, made no secret of his idolization of Mannock, and we are indebted to him for this glimpse of Mannock at work in May 1918:

'In his first fight, which commenced at 12,000 feet, there were six Pfalz scouts flying east from the direction of Kemmel Hill. He shot one to pieces after firing a long burst from directly behind and above; another he crashed. It spun into the ground after it had been hit by a deflection shot. Then Mick had a fine set-to with a silver bird while his patrol looked on. It was a wonderful sight. First, they waltzed around, with Mick tight on the bright lad's tail.

S.E.5a F5611 undergoing extensive repairs, including an engine change in No. 56 Sqn.'s workshops. Note the tripod for hoisting engine clear of mounting. (J. Cooper)

Then the Pfalz half-rolled, falling a few hundred feet beneath him. Mick did the same, firing as soon as he got his enemy in line. The Hun looped, Mick looped too, coming out behind and above the other, firing short bursts. The Pfalz spun. Mick spun also, firing as he did so. This shooting seemed to me a waste of ammunition. The Hun finally pulled out. Mick, who was now down to 4,000 feet, did the same. The Hun started twisting and turning, a sure sign of 'windup', and Mick administered the *coup de grâce* with a burst from directly behind at about twenty-five yards range. The Hun went down, obviously out of control, and crashed.

'This really was a remarkable exhibition of cruel, calculated Hun strafing. I felt sorry for the Hun. He put up as fine a show of defensive fighting as I've ever seen. . . . I asked Mick after we had landed why he fired during the spin. He replied: "To intensify his windup." '[1]

In August 1918 the Allied armies went over to the offensive that was to prove the final turning point of the war and see it to a successful conclusion. The offensive began on 8 August with an attack on a twenty-five mile long front from Courcelles to Albert. Allied air strength was overwhelming. Holding the front opposite the British 4th and French 1st Armies, the German 2nd Army and half the 18th Army had a total of 365 aeroplanes, of which 140 were fighters, against the combined British and French air strength of 1,904 aeroplanes, including 988 single-seater fighters. The RAF had a force of 800 aeroplanes for the battle, of which 376

1. *Tiger Squadron*; Ira Jones; W. H. Allen, 1954.

Sopwith Snipe E8050 of 'A' Flight No. 4 Sqn. Australian Flying Corps flown by Capt. Roy King, DSO, MC. (G. Muir)

were fighters and 75 fighter-reconnaissance aeroplanes.

The fighter squadrons were again used in support of the ground troops and the infantry had advanced seven miles at the end of the day: a day *General* Ludendorf was to name as the blackest day in the history of the German Army. In the early afternoon of 8 August the pattern of air fighting changed. Towards midday reconnaissance reports showed that the German forces were in full retreat across the Somme bridges. Major-General Salmond switched his planned bombing attacks for the afternoon to the bridges, and the air fighting above them became fierce as the *Jasta* rose in force to combat both the bombers and the low flying fighters. *Jasta* were hurriedly brought in from other fronts to reinforce those in the immediate area of the battle and the RAF suffered heavy casualties during the day, with ninety-seven aeroplanes missing or struck off strength, and eighty pilots and observers killed, wounded, or missing. The spirited and courageous resistance by the *Jagdstaffeln* prevented the destruction of the Somme bridges. Flying in large formations they broke up many of the bomber formations, forcing them to drop their bombs before reaching their targets.

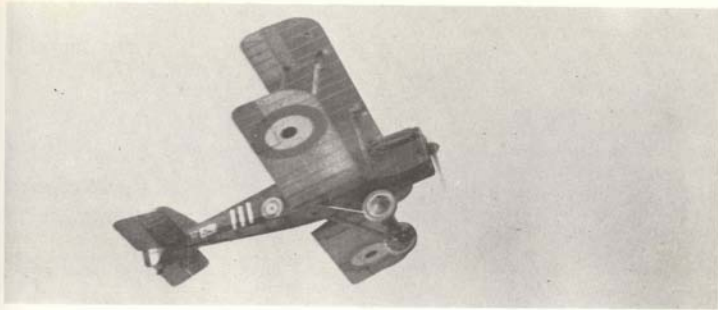
On 10 August the bombing attacks were diverted to the enemy-held railway stations and junctions. At Peronne, 12 bombers and their escort of 40 fighters from Nos. 32 Sqn. (S.E.5a) and 63 Sqn. (Bristol Fighter) were attacked over the target by 15 Fokker D VIIs. Two flights from No. 56 Sqn. joined in the fight and Capt. William Irwin of 'B' Flight shot down two of the D VIIs:

'I finally got on one E.A.'s tail and fired about 100 rounds at point blank range. He went over on his back and went down like a falling leaf, slipping from side to side.'

Irwin then turned his attentions to three more Fokkers below him, attacking the top one: 'After about a 150 rounds he burst into flames, half rolled and went down burning and smoking into clouds'.

Despite Irwin's successes, the action was not an unqualified victory. The Fokkers were well handled and shot down two of the No. 56 Sqn. pilots, including Capt. Boger, the 'A' Flight commander. In addition, one of the bombers and two S.E.s from No. 32 Sqn. were shot down.

Although Allied air strength was overwhelming on the first day of the battle, German reinforcements partially closed the numerical gap and the pilots of the *Jasta* fought with great courage and grim determination. In the first four days' fighting the Allied air forces lost 144 aeroplanes against the 30 lost by the *Luftstreitkräfte*. Various British war histories have held the view that the August battles dealt the *Jagdstaffeln* a blow, both in *matériel* and morale, from which they never fully recovered, but this was not so. The German fighter pilots fought magnificently until the final day of the conflict; although their numerical inferiority was com-



S.E.5a H691 of No. 92 Sqn. flown by Lt. J. V. Gascoyne, who had a narrow escape while ground strafing on 9 November 1918. Flying down a village street at rooftop height looking for targets, he came under accurate fire from a German machine gun in a church tower. In Gascoyne's words: 'He behaved rather unkindly to me by firing this dangerous weapon at my machine.' One bullet went through the S.E.'s windscreen, another hit the ignition switch and one went completely through Gascoyne's close-fitting flying helmet, striking the metal adjusting slide of his goggles as it did so. (J. V. Gascoyne)

pounded by severe shortages of fuel and spares, they did not lose their morale or will to fight.

On 10 August 90 additional aeroplanes reinforced the strength of the RAF on the battle front and 70 per cent of the entire fighter strength of the RAF in France—480 aeroplanes—was concentrated on the Amiens offensive. When the battle finally came to an end on 11 August, the German army had lost heavily, both in men and *matériel*—400 guns had been captured and 22,000 prisoners taken. It was the turning point of the war—from 8 August 1918 the German soldier began to lose faith in the success of his country's cause.

By 24 September, after the battles of Bapaume and The Scarpe, the Allied forces were poised against the last of the organized German defence lines: the Hindenburg Line. The British 4th, 3rd and 1st Armies, attacking from St Quentin to Cambrai, with Maubeuge as the final objective, had the support of 1,058 aeroplanes, including 27 fighter squadrons. Huge formations of British fighters now dominated the skies above France, with two or even three squadrons working together in offensive sweeps: S.E.5as and Dolphins keeping the high altitudes clear, with Camels stepped down at the lower levels.

The battle opened on 27 September, and by 1 October the Allies had captured 4,000 guns, 25,000 machine guns and a quarter of a million prisoners, with the whole of the Hindenburg Line in their hands by 8 October. The air fighting intensified as the end drew near, the *Jasta* throwing in their last reserves against the hordes of Allied fighters and bombers that roamed at will above the ground fighting. That the *Luftstreitkräfte* was still a force to be reckoned with is evidenced by the heavy fighting on 30 October. Although sixty-seven German fighters were shot down, the cost to the RAF was forty-one aeroplanes. The RAF had to fight hard for its victories until the bitter end.

When the fighting finally stopped at 11am on the morning of 11 November 1918, the RAF had grown from its modest beginnings: an establishment of 103 aeroplanes in 1914 had escalated to 22,647, and the war had shown that air power and air superiority were all important. The lesson was plain that England was no longer an impregnable island, safe behind its surrounding seas.

In those tragic and bloody years of war a new tradition had been born: that of the fighter squadrons of the RAF. The spirit and panache of the fighter pilots had been refined in the crucible of air combat, and perhaps one of the finest, if least known, tributes to that spirit was made by a young American pilot. After serving with the RFC and RAF

he was leaving the British to join his own country's air service in October 1918. He wrote:

'Just a word about our training and experiences with the British as we are now leaving them for good. If only I could in a small way express my feelings for these young fellows I would be mighty glad. These English fellows are surely gallant fighters. We have gone through Hell many times with them, but they always come back laughing and having a big time off parade and duty. I never thought a man could die as easy for his country as these young fellows of the Royal Air Force. I'll swear by them and stand up for them anywhere, and if they ever have another war I want to fight with them in their Royal Air Force.'

S.E.5as of 'A' Flight No. 2 Sqn. Australian Flying Corps near Lille in October 1918. The nearest machine, D/379, was wrecked soon after this photograph was taken. Lieutenant Lionel Armstrong did several loops after returning from a patrol and on landing the fuselage broke in half. (G. Muir)

BRITISH FIGHTER SQUADRON STRENGTH DURING THE MAJOR BATTLES OF 1917–18

Battle of Ypres, 31 July 1917

General Officer Commanding the RFC in France: Major-General H. M. Trenchard, CB, DSO, ADC

Headquarters 9th Wing, OC: Lt. Col. C. L. N. Newall

Squadron	*Commanding Officer*	*Location*
19 (Spad)	Maj. W. D. S. Sanday, DSO, MC	Estrée Blanche
56 (S.E.5a)	Maj. R. G. Blomfield	Estrée Blanche
66 (Pup)	Maj. G. L. P. Henderson, MC	Estrée Blanche
70 (Camel)	Maj. M. H. B. Nethersole	Estrée Blanche
10th (Army) Wing, OC: Lt. Col. W. R. Freeman, DSO, MC		
8 Naval (Triplane/Camel)	Sqn. Cdr. G. R. Bromet	Mont St Eloi
40 (Nieuport 17)	Maj. L. A. Tilney	Bruay
11th (Army) Wing, OC: Lt. Col. A. J. L. Scott, MC		
1 (Nieuport 17)	Maj. A. Barton Adams	Bailleul
1 Naval (Triplane)	Sqn. Cdr. R. S. Dallas, DSC	Bailleul
45 (Camel)	Maj. H. A. Van Ryneveld, MC	St Marie-Cappel
13th (Army) Wing, OC: Maj. C. T. MacLean, MC		
24 (D.H.5)	Maj. A. G. Moore, MC	Baizieux
41 (D.H.5)	Maj. J. H. A. Landon, DSO	Lealvillers
60 (Nieuport/S.E.5)	Maj. W. J. C. Kennedy-Cochran-Patrick, DSO, MC	Le Hameau
14th (Army) Wing, OC: Lt. Col. R. P. Mills, MC		
6 Naval (Camel)	Sqn. Cdr. C. D. Breese	Bray Dunes
9 Naval (Triplane/Camel)	Sqn. Cdr. H. Fawcett	Leffrinck-houcke
54 (Pup)	Maj. K. K. Horn	Leffrinck-houcke
22nd (Army) Wing, OC: Lt. Col. F. V. Holt, DSO		
10 Naval (Triplane)	Sqn. Cdr. B. C. Bell, DSO, DSC	Droglandt
23 (Spad)	Maj. A. M. Wilkinson, DSO	La Lovie
29 (Nieuport 17)	Maj. C. M. B. Chapman, MC	Poperinghe
32 (D.H.5)	Maj. T. A. E. Cairnes, DSO	Droglandt

Battle of Cambrai, 20 November 1917

Headquarters 9th Wing, OC: Lt. Col. W. R. Freeman, DSO, MC

No single-seater fighter squadrons on strength.

10th (Army) Wing, OC: Lt. Col. R. B. Martyn, MC

8 Naval (Camel)	Sqn. Cdr. C. Draper	Mont St Eloi
40 (S.E.5a)	Maj. L. A. Tilney	Bruay
43 (Camel)	Maj. A. S. W. Dore	Auchel

Squadron	*Commanding Officer*	*Location*
11th (Army) Wing, OC: Lt. Col. A. J. L. Scott, MC		
1 (Nieuport 17)	Maj. A. Barton Adams	Bailleul
19 (Spad)	Maj. W. D. S. Sanday, DSO, MC	Bailleul
23 (Spad)	Maj. C. E. Bryant, DSO	La Lovie
29 (Nieuport 17)	Maj. C. H. Dixon, MC	Poperinghe
32 (D.H.5)	Maj. J. C. Russell	Droglandt
60 (S.E.5a)	Maj. W. J. C. Kennedy-Cochran-Patrick, DSO, MC	St Marie-Cappel
65 (Camel)	Maj. J. A. Cunningham	Bailleul
70 (Camel)	Maj. H. B. R. Grey-Edwards, MC	Poperinghe
13th (Army) Wing, OC: Lt. Col. G. F. Pretyman, DSO		
3 (Camel)	Maj. R. Raymond-Barker, MC	Warloy
41 (S.E.5a)	Maj. F. J. Powell, MC	Lealvillers
46 (Pup/Camel)	Maj. P. Babington, MC	Le Hameau
56 (S.E.5a)	Maj. R. Balcombe-Brown, MC	Laviéville
64 (D.H.5)	Maj. B. E. Smythies	Le Hameau
68 (D.H.5)	Maj. W. O. Watt	Baizieux
84 (S.E.5a)	Maj. W. S. Douglas, MC	Le Hameau
14th (Army) Wing, OC: Lt. Col. P. B. Joubert de la Ferté, DSO		
24 (D.H.5)	Maj. J. G. Swart, MC	Teteghem
54 (Pup)	Maj. K. K. Horn	Teteghem

German Offensive, 21 March 1918

General Officer Commanding the RFC in France:
Major-General J. M. Salmond, CMG, DSO

Headquarters 9th (Day) Wing, OC: Lt. Col. W. R. Freeman, DSO, MC		
73 (Camel)	Maj. T. O'B. Hubbard, MC	Champien
79 (Dolphin)	Maj. M. W. Noel	Champien
80 (Camel)	Maj. V. D. Bell	Champien
10th (Army) Wing, OC: Lt. Col. C. T. Maclean, MC		
2 AFC (S.E.5a)	Maj. W. Sheldon	Savy
3 Naval (Camel)	Sqn. Cdr. R. Collishaw, DSO, DSC	Mont St Eloi
4 AFC (Camel)	Maj. W. A. McClaughry, MC	Bruay
40 (S.E.5a)	Maj. R. S. Dallas, DSC	Bruay
43 (Camel)	Maj. C. C. Miles, MC	La Gorgue
11th (Army) Wing, OC: Lt. Col. H. A. Van Ryneveld, MC		
1 (S.E.5a)	Maj. A. Barton Adams	Bailleul
19 (Dolphin)	Maj. E. R. Pretyman	Bailleul
29 (Nieuport)	Maj. C. H. Dixon, MC	La Lovie
32 (S.E.5a)	Maj. J. C. Russell	Bailleul
60 (S.E.5a)	Maj. B. F. Moore	Bailleul
65 (Camel)	Maj. J. A. Cunningham	Droglandt
13th (Army) Wing, OC: Lt. Col. P. H. L. Playfair, MC		
3 (Camel)	Maj. R. Raymond-Barker, MC	Warloy
41 (S.E.5a)	Maj. G. H. Bowman, MC	Lealvillers
46 (Camel)	Maj. R. H. S. Mealing	Le Hameau
56 (S.E.5a)	Maj. R. Balcombe-Brown, MC	Baizieux
64 (S.E.5a)	Maj. B. E. Smythies	Le Hameau
70 (Camel)	Maj. H. B. R. Grey-Edwards, MC	Marieux
22nd (Army) Wing, OC: Lt. Col. F. V. Holt, DSO		
23 (Spad)	Maj. C. E. Bryant, DSO	Matigny
24 (S.E.5a)	Maj. V. A. H. Robeson, MC	Matigny
54 (Camel)	Maj. R. S. Maxwell, MC	Flez
84 (S.E.5a)	Maj. W. S. Douglas, MC	Flez

Battle of Amiens, 8 August 1918

General Officer Commanding the RAF in France:
Major-General J. M. Salmond, CMG, CVO, DSO

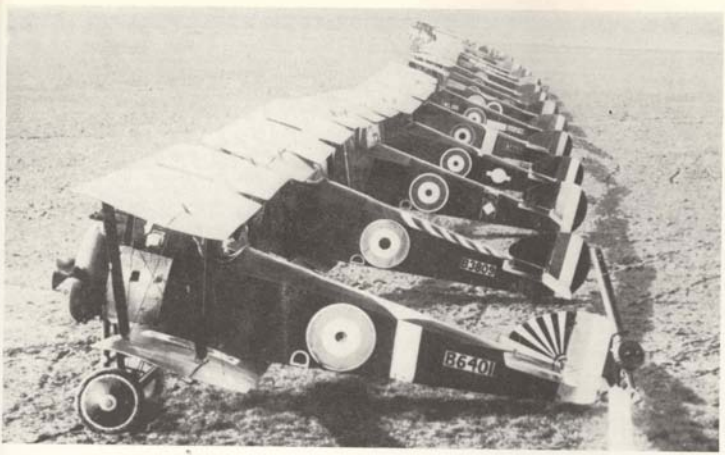
Headquarters 9th Wing, OC: Lt. Col. A. V. Holt, DSO		
32 (S.E.5a)	Maj. J. C. Russell	Bellevue

Squadron	Commanding Officer	Location
73 (Camel)	Maj. M. le Blanc-Smith, DFC	Bellevue
51st Wing, OC: Lt. Col. R. P. Mills, MC		
1 (S.E.5a)	Maj. W. E. Young, DFC	Fienvillers
43 (Camel)	Maj. C. C. Miles, MC	Fienvillers
54 (Camel)	Maj. R. S. Maxwell, MC	Fienvillers
54th Wing, OC: Lt. Col. R. G. D. Small		
151 (Camel)	Maj. J. C. Q. Brand, DSO, MC	Fontane-sur-Maye
10th (Army) Wing, OC: Lt. Col. C. T. Maclean, MC		
19 (Dolphin)	Maj. E. R. Pretyman	Savy
40 (S.E.5a)	Maj. A. W. Keen, MC	Bryas
64 (S.E.5a)	Maj. B. E. Smythies	Le Hameau
203 (Camel)	Maj. R. Collishaw, DSO, DSC, DFC	Filescamps Farm (Le Hameau)
208 (Camel)	Maj. C. Draper, DSC	Tramecourt
11th (Army) Wing, OC: Lt. Col. H. A. Van Ryneveld, MC		
29 (S.E.5a)	Maj. C. H. Dixon, MC	Hooge Huys
70 (Camel)	Maj. E. L. Foot, MC	Esquerdes
74 (S.E.5a)	Maj. K. L. Caldwell, MC	Clairmarais
79 (Dolphin)	Maj. A. R. Arnold, DFC	St Marie-Cappel
13th (Army) Wing, OC: Lt. Col. P. H. L. Playfair, MC		
3 (Camel)	Maj. R. St Clair McClintock, MC	Valheureux
56 (S.E.5a)	Maj. E. J. L. W. Gilchrist, MC	Valheureux
60 (S.E.5a)	Maj. A. C. Clarke	Boffles
87 (Dolphin)	Maj. C. J. W. Darwin	Rougefay
22nd (Army) Wing, OC: Lt. Col. T. A. E. Cairnes, DSO		
23 (Dolphin)	Maj. C. E. Bryant, DSO	Bertangles
24 (S.E.5a)	Maj. V. A. H. Robeson, MC	Conteville
41 (S.E.5a)	Maj. G. H. Bowman, DSO, MC	Conteville
65 (Camel)	Maj. H. V. Champion de Crespigny, MC	Bertangles
80 (Camel)	Maj. V. D. Bell	Vignacourt
84 (S.E.5a)	Maj. W. S. Douglas, MC	Bertangles
201 (Camel)	Maj. C. D. Booker, DSC	Poulainville
209 (Camel)	Maj. J. O. Andrews, DSO, MC	Poulainville
65th Wing, OC: Lt. Col. J. A. Cunningham, DFC		
17 (American) (Camel)	Lt. E. B. Eckert	Petite Synthe
148 (American) (Camel)	Lt. M. L. Newhall	Cappelle
80th (Army) Wing, OC: Lt. Col. L. A. Strange, MC		
2 (AFC) (S.E.5a)	Maj. A. Murray-Jones, MC, DFC	Reclinghem
4 (AFC) (Camel)	Maj. W. A. McClaughry, MC	Reclinghem
46 (Camel)	Maj. A. H. O'Hara Wood	Serny
92 (S.E.5a)	Maj. A. Coningham, DSO, MC	Serny
61st Wing, OC: Lt. Col. E. Osmond		
204 (Camel)	Maj. E. W. Norton, DSC	Teteghem
210 (Camel)	Maj. B. C. Bell, DSO, DSC	Eringhem
213 (Camel)	Maj. R. Grahame, DSO, DSC	Bergues

British Fighter Squadrons at 11 November 1918

S.E.5a: Nos. 1, 2 AFC, 24, 29, 32, 40, 41, 56, 60, 64, 74, 84, 85, 92, and 94.
Camel: Nos. 3, 45, 46, 54, 65, 70, 73, 80, 151, 152, 201, 203, 204, 208, 209, 210, and 213.
Dolphin: Nos. 19, 23, 79, and 87.
Snipe: Nos. 4 AFC, and 43.

Opposite above:
Strikingly marked Camels of Naval 3 Sqn. RNAS at Bray Dunes, January–February 1918. The nearest machine is B6401, the subject of the colour spread on pages 28–29. (L. A. Rogers)



Notes sur les planches en couleur

Page 25 : *Pilot*, 1918 mis en complet de pilot *Sidcot* No. 5. Façonné d'un complet acheté à gré qui fut fait sur commande pour Sidney Cotton de No. 8 Sqn., RNAS, il fut developpé et distribué en 1917–18, se démontrant très populaire. Le drap extérieur fut *'Burberry'*, avec une doublure intermédiaire de soie et une doublure intérieure de fourrure claire.

Page 32 gauche : Ouvrier mécanicien de *Royal Flying Corps* agitant le propulseur d'un avion de chasse S.E.5. Il porte combinaison de *'denim'* bleu foncé avec le paletot à tranchée de cuir bien favorisé de troupes brittaniques en France et le calot de kaki de la RFC avec insigne de corps sur le devant à gauche.

Page 32 droit : *Warrant Officer Pilot*, 1918. Une combinaison des signes sur tenues des officiers et des autres grades : prenez note d'absence des insignes de col d'officiers et de titres d'épaule d'autres grades ; patte spéciale sur manchette du tunique de NCOs' et WOs' supérieurs (officiers portèrent manchettes pointues, autres grades manchettes simples) ; insignes de sous-officiers brevetés sur avant-bras ; et ceinture *Sam Browne*.

Page 26 en haut : *Sopwith Triplane* N5492 *'Black Maria'* volé de Commandant aviateur Raymond Collishaw, tout en commandant le *'Black Flight'* célébré—*'B' Flight* de No. 10 Naval Sqn. RNAS, juin à juillet 1917. Dans le fini à service normal de la période, kaki-vert PC 10 enduit sur toutes surfaces à part le côté de dessous du fuselage et les surfaces des ailes qui furent laissées en leur couleur de toile naturelle et furent traitées avec vernis V.114, l'avion est illustré avec la banderole d'étoffe de 6ft longueur utilisée pour identifier l'appareil d'un commandant aviateur en l'air.

Page 26 en bas : *Sopwith Pup* B1777 *'Chin-Chow'* volé de *Lt.* Arthur Gould Lee de No. 46 Sqn. chez Sutton's Farm, Hornchurch, Essex, de service de défense à patrie, août 1917. Une avion presenté portant l'inscription *'British Guiana No. 2'*, le *Pup* fut un des plusieurs avec sobriquets fort visibles, y compris *'Wonga'*, *'Otazel'*, *'Brundy'* et *'Will-o'-the-Wisp'* qui reçurent l'ordre d'avoir leurs 'identités' peindues blancs quand No. 46 Sqn. retourna à France le 30 août. L'appareil tient le fini de camouflage anglais standard pour la période.

Page 27 : *De Havilland* D.H.5 A9474 volé de *Lt.* Frederick S. Clark de No. 41 Sqn. quand il fut tiré à terre le 29 octobre 1917. La dernière fois vu volant à l'ouest au-dessus de Bullecourt à 7.45am, l'appareil de Clark fut probablement la troisième victoire pour *Ltn.* Fuchs de *Jasta* 30. Bien qu'il porte camouflage standard, comparaison des autres planches en couleur révèle le degré auquel kaki-verte put variée de nuances vertes à brunes, comme illustrées. La lettre 'F' fut montrée des deux côtés du fuselage et aussi les deux barres verticales blanches qu'identifièrent l'escadrille.

Pages 28–29 : *Sopwith Camel* B6401 de No. 3 Naval Sqn. RNAS, l'aérodrome Bray Dunes, janvier-février 1918. Un de plusieurs *Camels* marqués d'une manière frappante utilisé de *Naval* 3 pendant la période, cet appareil fut premièrement volé d'un Canadien, Lloyd S. Breadner. Commandant l'escadrille de la fin de 1917 au début de 1918, Breadner placa la feuille d'érable embrassante une couronne sur le plan supérieur du fuselage. Au moins un autre *Camel* de *Naval* 3 porta marquages similaires sur empennage pendant la période.

Page 30 : S.E.5a D3540 de No. 40 Sqn. volé de *Captain* Gwilym Lewis, DFC, quand commandant *'B' Flight*, No. 40 Sqn., 1918. A *Hispano Suiza-engined* S.E.5a, l'appareil porta le nom *'The Artful Dodger'* sur les vannes de radiateur comme illustré. Le marquage blanc en zigzag sur le fuselage à l'arrière fut un marquage d'escadrille.

Page 31 en haut : (A) Les lettrines de *Lt.* Oliver Stewart portées sur son *Sopwith Pup* quand il fut en service de No. 56 Sqn., printemps 1917. (B) Marquage sur fuselage d'un *Sopwith Pup* de No. 4 Naval Sqn., RNAS. (C) Insigne de No. 73 Sqn., France 1918. (D) Marquage sur fuselage de *Pup* N6179 volé de plusieurs pilots de No. 3 Naval Sqn. RNAS, mars 1917. (E) S.E.5a volé de *Capt.* Duncan Grinnell-Milne de No. 56 Sqn. Le nom d'avion rappella la période que le pilot passa en camp de prison et la mainière dans laquelle il fut adressé avant son évasion. (F) *Sopwith Pup* de No. 4 Sqn., RNAS. (G) Marquage sur fuselage de S.E.5a B'507 de No. 60 Sqn., RFC. (H) *Sopwith Dolphin*, No. 87 Sqn., RFC.

Page 31 en bas : Camion *Leyland Subsidy A Type* à l'usage de tout le monde de poids trois tonneaux utilisé de la RFC/RAF, 1917–18. La plupart des 12,000 camions *Leyland* fabriqués pendant la guerre furent utilisés des aviations militaires, la version de l'atelier mobile Type A étant beaucoup utilisé des escadrilles.

Farbtafeln

Seite 25: *Pilot*, 1918 auf *Sidcot* No. 5 Fliegerschutzanzug bekleidet. Geschneidet von einem persönlichen gekauften Anzug, dem nach Mass Sidney Cotton No. 8 Sqn. RNAS gestellten wurde, wurde er in 1917–18 entwickelt und ausgegeben und er erweisete sich sehr populär. Der äussere Stoff war *'Burberry'* mit einem Zwischenfutter aus Seidenstoff und einem inneren Futter aus feinem Pelz.

Seite 32 links: Bordwart des *Royal Flying Corps*, der die Luftschraube eines S.E.5 Jägers durchdreht. Er trägt Arbeitsanzug aus dunkelblauen grobem Drillich mit dem Trenchkoller, dem von britischen Truppen in Frankreich überreicht wurde, und die Feldmütze aus Khaki des RFC mit Korpsabzeichen an der linken Vorderseite.

Seite 32 rechts: *Warrant Officer Pilot*, 1918. Eine Vereinigung der Uniformen Offiziere und anderen Dienstgrade: bemerken Mangel an Kragenabzeichen Offiziers und Achselstiteln anderen Dienstgrade; spezielles Abzeichen auf Stulpen der Waffenröcke Ober NCOs' und WOs' (Offiziere trugen spitze Stulpen, andere Dienstgrade einfache Stulpen); Feldwebelabzeichen auf Unterarmen; und *Sam Browne* Gürtel.

Seite 26 oben: *Sopwith Triplane* N5492 *'Black Maria'* von Kettenführer Raymond Collishaw geführt, während er von Juni bis Juli 1917 *'Black Flight'*—*'B' Flight* No. 10 Naval Sqn., RNAS führte. In der Normaldienstoberflächengüte der Zeit, PC 10 graugrün firnisst auf allen Oberflächen abgesehen von der Unterseite des Rumpfs und den Tragflächen, den in ihrer Farbe ungebleichter Bespannung gelassen und mit V.114 Firnis bearbeitet wurden, ist das Flugzeug mit dem fliegenden Band aus Bespannung 6ft Länge illustriert, dem benutzt wurde, um ein Flugzeug Kettenführers in der Luft zu identifizieren.

Seite 26 unten: *Sopwith Pup* B1777 *'Chin-Chow'* von *Lt.* Arthur Gould Lee in August 1917 No. 46 Sqn. bei Sutton's Farm, Hornchurch, Essex geführt, als er in Bürgerwehrdienst war. Ein Schenkungsflugzeug tragend die Einschreibung *'British Guiana No. 2'* war das *Pup* ein vieler mit sehr sichtbaren Spitznamen, den *'Wonga'*, *'Otazel'*, *'Brandy'* und *'Will-o'-the-Wisp'* schlossen ein und den man ihre Identität ausgestreicht befahl, als No. 46 Sqn. am 30 August nach Frankreich zurückfuhr. Das Flugzeug hat eine Oberflächengüte normaler britischer Tarnung für dieser Zeit.

Seite 27: *De Havilland* D.H.5 A9474 von *Lt.* Frederick S. Clark No. 41 Sqn. geführt, als er am 29 Oktober 1917 abgeschossen wurde. Gesehen für das letzte Mal um 7.45am führend westwärts über Bullecourt war das Flugzeug Clarks wahrscheinlich den dritten Erfolg für Ltn. Fuchs Jasta 30. Obgleich es Normaltarnung trägt, Vergleich mit anderen Farbtafeln zeigt das Grad, das graugrün von grünen bis braunen Farbstufen verändern könnte, wie man hier illustriert hat. Der Buchstabe 'F' wurde auf beiden Seiten des Rumpfs als auch die zwei senkrechte Riegels gezeigt, die Staffel identifizierte.

Seiten 28–29: *Sopwith Camel* B6401 No. 3 Naval Sqn., RNAS, Bray Dunes Fliegerhorst, Januar–Februar 1918. Ein vieler Camels mit auffallenden Hoheitsabzeichen an dieser Zeit von *Naval* 3 benutzt, wurde dies Flugzeug erst von einem Kanadier, Lloyd S. Breadner, geführt. Befehlend die Staffel von spät 1917 bis früh 1918 stellte Breadner das Feldahornblatt einschliessend eine Krone auf dem Oberdeck des Rumpfs. Zum mindesten trug noch ein anderes *Camel Naval* 3 gleiche Rumpfendehoheitsabzeichen an dieser Zeit.

Seite 30: S.E.5a D3540 No. 40 Sqn. von *Captain* Gwilym Lewis, DFC geführt, als er *'B' Flight*, No. 40 Sqn. 1918, führte. Ein *Hispano Suiza-engined* S.E.5a trug das Flugzeug den Namen *'The Artful Dodger'* auf den Kühlerabdeckungen, wie man hier illustriert hat. Die weisse Zickzacklinie auf dem hinteren Rumpf war ein Staffelhoheitsabzeichen.

Seite 31 oben: (A) Die Anfangsbuchstaben des Vor- und Familiennames *Lt.* Oliver Stewart auf seinem *Sopwith Pup* getragen, als er in Frühling 1917 bei No. 56 Sqn. diente. (B) Rumpfhoheitsabzeichen eines *Sopwith Pups* No. 4 Naval Sqn., RNAS. (C) Abzeichen No. 73 Sqn. 1918 Frankreich. (D) Rumpfhoheitsabzeichen *Pup* N6179 in März 1917 von vielen Piloten No. 3 Naval Sqn. geführt. (E) S.E.5a von *Capt.* Duncan Grinnell-Milne No. 56 Sqn. geführt. Der Flugzeugsname rief ins Gedachtnis die Zeit zurück, die der Pilot in Gefängnislager verbracht hatte, und die schmälernde Weise, die man zu ihn vor sein Entrinnen gesprochen hatte. (F) *Sopwith Pup* No. 4 Sqn., RNAS. (G) Rumpfhoheitsabzeichen S.E.5a B'507 No. 60 Sqn., RFC. (G) *Sopwith Dolphin*, No. 87 Sqn., RFC.

Seite 31 unten: *Leyland Subsidy A Type* Mehrzwecklastauto Gewicht drei Tonnen 1917–18 von der RFC/RAF benutzt. Meiste der 12,000 *Leyland*-Lastauto, die während des Kriegs fabriziert wurden, wurden von den Luftstreitkräften benutzt. Die Version Modells A bewegliche Werkstatt wurde viel von den Stafflen benutzt.

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